

Brownfields Guidance Document For Asbestos Disposal Sites In New Hampshire

Test Pit Explorations At An Asbestos Disposal Site





Exposed Asbestos Plate Waste Mixed With Fill At An Asbestos Disposal Site



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PREFACE

New Hampshire cities including Nashua, Meredith, and Tilton were formerly home to asbestos manufacturing facilities for nearly a century between the early 1900s and the 1980s. Asbestos waste disposal practices were not well regulated prior to the 1970s primarily because the health effects of asbestos exposures had not been fully realized. It was common practice to provide asbestos-containing waste to property owners as free fill. Consequently, asbestos-containing waste was dumped in large quantities at the above and surrounding communities, generally to fill low-lying areas to facilitate land development. According to the United States Environmental Protection Agency (EPA), asbestos is now known to "present an unacceptable risk of injury to human health," as inhaling asbestos fibers greatly increases the odds of contracting asbestosis, mesothelioma, lung cancer, gastrointestinal cancer, and other cancers. Furthermore, EPA has called asbestos a "highly potent carcinogen" that causes "severe health effects after short-term, high-level or longer-term, low-level exposure."

Today there are more than 300 designated Asbestos Disposal Sites (ADS) in the communities of Nashua and Hudson alone, with a potential for many more sites that have yet to be investigated. An ADS Site as defined by New Hampshire Revised Statutes Annotated (RSA) 141-E:2, III as "land where asbestos waste exists, either in or on the ground, due to dumping activities which ceased by July 10, 1981" and includes inactive disposal sites as defined by federal regulation 40 CFR 61.141. ADS Sites are not unique to a single historic land use, but range from abandoned derelict properties to industrial/commercial and residential properties. In recent years, the New Hampshire Department of Environmental Services (NHDES) has taken significant steps in developing a regulatory framework for ADS Sites that is protective of public health and provides guidance to educate and direct communities to reduce the risk of exposure from potential buried asbestos.

Communities are now struggling with how to cost-effectively manage ADS Sites to protect human health, maintain compliance with State regulations, and promote redevelopment of these properties. Because of both real and perceived human health threats of potential asbestos exposures at ADS Sites, these sites often become abandoned or underutilized, and become Brownfield sites. Brownfield sites are defined by EPA as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."

The EPA's Brownfields Program "is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to assess, safely clean up, and sustainably reuse Brownfields." The EPA's Brownfields Program provides financial and technical assistance for brownfields revitalization, including grants for environmental assessment, cleanup, and job training." The City of Nashua recently performed Brownfields investigations at several City-owned ADS Sites using a Supplemental Brownfields Demonstration Pilot Grant that was awarded by EPA in 2002. GZA GeoEnvironmental, Inc. (GZA) performed these investigations on behalf of the City of Nashua. As part of GZA's contract with the City, GZA has prepared this guidance document, which reflects the knowledge and experience gained through the investigation and remedial planning stages of these ADS Sites. This guidance document serves as a model, providing instructional information for communities impacted by ADS Sites to use in the following ways:

¹ EPA, The Brownfields Program: Setting Change In Motion. EPA 901-F-03-007, October 2003.

- Identifying known or suspected ADS Sites;
- Conducting investigations to define the extent of asbestos contamination; and
- Evaluating remedial strategies for ADS Sites to enable re-development.

This document provides guidance for decision making, site prioritization, and structuring of Brownfields investigations at ADS Sites, which enables communities and site owners to evaluate remedial strategies designed to meet applicable regulations and the desired levels of protection. This document serves as a companion to NHDES's "Guidance For Managing Asbestos Disposal Sites," which provides guidance on how to recognize ADS Sites and practice good judgment in protecting people from potential asbestos exposures.

This report is subject to the Limitations in **Appendix A**.

ACKNOWLEDGEMENTS

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ACRONYMS

ACM Asbestos-containing material

ADS Asbestos Disposal Site

Amatax Corporation Formerly known as American Asbestos Textile Corporation

CERCLA Comprehensive Environmental Response Compensation and Liability

Act

CRLF Cleanup Revolving Loan Fund
GPR Ground Penetrating Radar
GZA GEOEnvironmental, Inc.

NHDES New Hampshire Department of Environmental Services

Johns-Manville Corporation

PLM Polarized Light Microscopy

Johns-Manville

QA/QC Quality assurance/quality control
QAPP Quality Assurance Project Plan

Quin-T Quin-T Corporation
RAP Remedial Action Plan

RSA New Hampshire Revised Statutes Annotated

SWMB Solid Waste Management Bureau
TBAs Targeted Brownfields Assessment
USACE U.S. Army Corps of Engineers

USEPA United States Environmental Protection Agency

USGS United States Geologic Survey

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TABLE OF CONTENTS

		<u>Page</u>
1.0	INTRODUCTION	1
	1.1 THE ASBESTOS DILEMMA IN NEW HAMPSHIRE	1
	1.1.1 What Is Asbestos	1
	1.1.2 Health Hazards Associated With Asbestos	1
	1.1.3 Asbestos Manufacturing and Disposal Practices in New Hampshire	2 3
	1.1.4 Asbestos Disposal Sites 1.2 OVERVIEW OF THE BROWNFIELDS PROGRAM	3
	1.2.1 Summary of the EPA Brownfields Program	3
	1.2.2 NHDES Brownfields Program	5
	1.2.3 Eligibility For Brownfields Funding	5
	1.2.4 Contact Information and Resources	7
	1.3 UNDERSTANDING THE REGULATIONS THAT GOVERN ADS SITES	8
2.0	SITE IDENTIFICATION PROCESS	9
	2.1 LOCATE AND RESEARCH ADS AND ABUTTING PROPERTIES	9
	2.2 PRIORITIZE SITES FOR INVESTIGATION	10
	2.3 DEVELOP RANKING CRITERIA	13
	2.4 INVOLVE THE LOCAL COMMUNITY	13
3.0	SITE CHARACTERIZATION	14
	3.1 TECHNICAL APPROACHES TO ASBESTOS INVESTIGATIONS	15
	3.2 ADS SITEWORK PLAN AND QUALITY ASSURANCE PROJECT PLAN	17
	3.2.1 ADS Site Work Plan	17
	3.2.2 Quality Assurance Project Plan	18
	3.3 DESIGNING AND IMPLEMENTING THE INVESTIGATION PROGRAM	19
	3.3.1 Geophysical Investigations	20
	3.3.2 Test Pit Explorations 3.3.3 Test Borings	21 22
	3.3.4 Shallow Hand Probes	22
	3.3.5 ACM Sampling, Laboratory Testing, and Data Validation	23
4.0	REMEDIAL PLANNING	24
	4.1 EVALUATION OF REMEDIAL STRATEGIES	24
	4.2 REPORTING/DOCUMENTATION	25
5.0	SUMMARY	25

TABLE OF CONTENTS (CONTINUED)

TABLE

TABLE 1 EXAMPLE LIST OF PRIORITZED SITES

FIGURE

FIGURE 1 PRIORITIZATION OF ASBESTOS DISPOSAL SITE INVESTIGATIONS

APPENDICES

APPENDIX A LIMITATIONS

APPENDIX B NHDES GUIDANCE FOR MANAGING ASBESTOS DISPOSAL SITES,

MAY 2000

APPENDIX C NH ADMISTRATIVE RULES ENV-WM 3900 AND HE-P 5000

APPENDIX D ADS SITES RECONNAISSANCE CHECKLIST

APPENDIX E EXAMPLE MATRIX FOR THE EVALUATION OF A SITE'S

DEVELOPMENT POTENTIAL

APPENDIX F EXAMPLE QUESTIONNAIRE FOR FIRST PUBLIC MEETING

APPENDIX G EXAMPLE BROCHURE FOR PUBLIC MEETING

1.0 INTRODUCTION

1.1 THE ASBESTOS DILEMMA IN NEW HAMPSHIRE

1.1.1 What Is Asbestos

Asbestos is a naturally occurring group of minerals consisting of six primary types: Chrysotile, Amosite, Crocidolite, Anthophyllite, Actinolite, and Tremolite. Chrysotile is the most common type of asbestos used in the United States. Asbestos is non-combustible, resistant to corrosion, has a high tensile strength, and low electrical conductivity. These characteristics, in addition to the material's relatively low cost made asbestos an attractive material for producing a variety of commercial products over a period of 100 years beginning around 1880. Asbestos was commonly used in a variety of applications, including construction materials (shingles, cement, tiles), automobile parts (brakes and clutches), and insulation. The United States Bureau of Mines estimates that there are up to 2,000 discrete uses of asbestos.

Any material containing asbestos at more than one percent (1%) is designated by United States Environmental Protection Agency (EPA) as an asbestos containing material (ACM). ACM is classified as either "friable" or "non-friable." The term "friable" indicates the ACM can be crushed, pulverized, or reduced to powder, when dry, by hand pressure and results in asbestos fibers being released to the air. The term "non-friable" indicates the ACM requires mechanical pressure to break the matrix, and even then it is unlikely to release significant fibers to the air. It appears that all forms of ACM pose a health hazard; however, "friable" ACM (e.g., baghouse waste) poses a greater health risk of exposure than does "non-friable" ACM (e.g., plate waste). It should be noted that most non-friable ACM, when left exposed to the elements, will deteriorate and become friable over time.

1.1.2 Health Hazards Associated With Asbestos

A large number of studies of occupationally exposed workers have conclusively demonstrated the relationship between asbestos exposure and asbestosis, mesothelioma, lung cancer, gastrointestinal cancer, and other cancers.² According to the EPA, asbestos is known to "present an unreasonable risk of injury to human health," as inhaling asbestos fibers greatly increases the odds of contracting asbestosis, mesothelioma, lung cancer, gastrointestinal cancer, and other cancers. Furthermore, EPA has called asbestos a "highly potent carcinogen" that causes "severe health effects after short-term, high-level or longer-term, low-level exposure."

Inhalation is the primary exposure route, and to a lesser extent ingestion and dermal contact. Most asbestos fibers that are inhaled are removed through the body's natural process of coughing. However, some fibers cannot escape and remain lodged in the lungs for many years. The presence of these trapped asbestos fibers will likely go unnoticed until they cause serious health problems some ten, twenty, or even thirty years after exposure. Smokers and people with respiratory sensitivities are at higher risk of developing asbestos-induced lung cancer.

² US EPA's Integrated Risk Information System-Asbestos (CASRN 1332-21-4), http://www.epa.gov/iris/index.html.

1.1.3 Asbestos Manufacturing and Disposal Practices in New Hampshire

For nearly a century, the Johns-Manville Corporation (Johns-Manville) was the world's largest manufacturer of asbestos-containing products, which owned and operated asbestos manufacturing facilities in Nashua and Tilton, New Hampshire. Beginning in the early 1900s, the Nashua facility combined asbestos fibers with cement to produce a number of asbestos plate products for commercial and industrial use. At this facility alone, conservative estimates indicate that approximately 400,000 tons of asbestos-containing waste material was generated over a period of 70 years, which consisted of quality rejects, sludge, baghouse dust materials, and other sheet materials as part of its production process. Johns-Manville disposed of this material on the site of the manufacturing facility and the on the surrounding properties, and also distributed it as free fill to area property owners. Consequently, asbestos-containing material (ACM) was dumped in large quantities throughout Nashua and surrounding communities, generally to fill low-lying areas and facilitate land development. Often at times, ACM-contaminated fill included a combination of both friable and non-friable waste products. Because of the wide range of production process waste generated, ACM-contaminated fill came in a variety of colors, including gray, white, black, green, and red and took the form of pellets, spheres, whole sheets, plate waste (sheet scraps/fragments), rolled sheets, dewatered sludge, or "baghouse" (dust collector) waste. After being in soil for many years, ACM has a tendency to blend with its surroundings and subsequently can become hard to distinguish from native soils. This is most often the case with "baghouse" waste, which is a fine, dust-like material that resembles soil particles. Refer to the document titled "Guidance for Managing Asbestos Disposal Sites," dated May 2000 (Appendix B), which was prepared by NHDES for additional details regarding the physical characteristics of asbestos. This guidance document is also available through the NHDES website.3

ACM disposal continued at the Nashua manufacturing facility until the early 1970s when it was discontinued as a result of federal regulations concerning the use of ACM. Johns-Manville ceased production of ACM-containing products at the Nashua facility in December 1985, and the manufacturing buildings were demolished in 1997.

Less is known regarding Johns-Manville's Tilton manufacturing facility. The Tilton facility was built by Johns-Manville between 1946 and 1947. This facility primarily manufactured an asbestos-containing paper insulation product and was operated until 1976, when the facility was sold to Quin-T Corporation (Quin-T). Quin-T continued to manufacture an ACM product until 1987, when they switched to a non-ACM product line.

A third asbestos manufacturing facility was located in Meredith, New Hampshire, which was owned and operated by Amatax Corporation (formerly known as American Asbestos Textile Corporation). Amatax manufactured an asbestos cloth product from approximately 1951 to 1982. It is believed by NHDES that ACM waste generated at this facility may have been buried in several locations in Meredith.

An incomplete understanding of waste disposal practices at the Tilton and Meredith manufacturing facilities exists, leaving open the question of whether unregulated ACM waste disposal practices existed in these communities, similar to Nashua.

Page 2 of 26

NHDES asbestos web page can be accessed at the following web address: http://www.des.state.nh.us/asbestosguidance.

1.1.4 Asbestos Disposal Sites

As a result of historic unregulated ACM disposal practices, there are currently more than 300 State-designated Asbestos Disposal Sites (ADS Sites) in the communities of Nashua and Hudson alone, with a potential for more sites that have yet to be discovered. An ADS Site as defined by New Hampshire Revised Statutes Annotated (RSA) 141-E:2, III as "land where ACM waste exists, either in or on the ground, due to dumping activities which ceased by July 10, 1981" and includes inactive disposal sites as defined by federal regulation 40 CFR 61.141. Once a site has been designated by the State as an ADS Site, specific rules and regulations apply (NHDES Env-Wm 3900 and He-P 5000, included in **Appendix C**) to ADS Site owners and persons who excavate or otherwise disturb these sites, including but not limited to:

- Earthwork contractors and land developers;
- Landscapers and gardeners;
- Underground utility installers and maintenance personnel; and
- Utility pole installers.

These rules and regulations have been designed by the State to be protective of public health given the seriousness of the health hazards associated with asbestos exposures.

1.2 OVERVIEW OF THE BROWNFIELDS PROGRAM

Communities such as Nashua and Hudson are now struggling with how to cost-effectively manage ADS Sites to protect human health, maintain compliance with State regulations, and promote redevelopment. Based on both real and perceived human health threats of potential asbestos exposures, these sites often become abandoned or underutilized, and become Brownfields sites. The EPA defines Brownfields sites as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." Consequently, ADS Sites are eligible for Brownfields assistance in investigation and remediation of existing or suspect ACM contamination if they meet the EPA Brownfields grant criteria. "Preparing Brownfield sites for productive reuse requires the integration of many elements including financial issues, community involvement, liability considerations, environmental assessment and cleanup, regulatory requirements and more, as well as, coordination among many groups of stakeholders." The following provides a brief summary of the EPA and NHDES Brownfields Programs, what sites and entities are eligible for EPA funding, and relevant contacts and resources.

1.2.1 Summary of the EPA Brownfields Program

The EPA Brownfields Program "is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to assess, safely clean up, and sustainably reuse Brownfields." Through the 2002 Brownfields Revitalization Act, otherwise known as the "Brownfields Law," the EPA's Brownfields Program provides tools for financial and technical assistance for brownfields revitalization, including grants for environmental assessment and cleanup. A brief summary of the relevant Brownfields programs offered by EPA is provided below.

⁴ EPA Road Map to Understanding Innovative Technology Options for Brownfields Investigations and Cleanup, third edition. EPA 542-B-01-001.

⁵ EPA, The Brownfields Program: Setting Change In Motion. EPA 901-F-03-007, October 2003.

Direct Assistance Program

EPA-Conducted Targeted Brownfields Assessment (TBAs) Program: Assessments are conducted by an EPA-hired contractor on behalf of an eligible entity (e.g., municipalities) to perform site assessments, develop cleanup options and cost estimates, perform community outreach, or to perform special studies, such as evaluating various land uses for a property. Each EPA Region is given an annual budget to spend on TBAs, which is allocated on a case-by-case basis. Typical site assessments average \$75,000. Sites for this program are selected locally twice a year.

Financial Assistance Programs

There are several funding opportunities available that include loans, grants, and tax-incentive programs.

Assessment Grant Program: This program provides direct funding for an eligible recipient to inventory, characterize, assess, and conduct planning and community involvement related to Brownfields sites. Two categories of funding exist under this program including: (1) up to \$200,000 per site for sites contaminated with hazardous substances, pollutants, or contaminants (including hazardous substances co-mingled with petroleum); and (2) up to \$200,000 for petroleum contaminated sites only. The \$200,000 limit may be waived by EPA (allowing up to \$350,000), based on anticipated levels of contamination, size, or ownership of the site.

The performance period of these grants is generally two years. The recipients of this program are selected through a national competition.

• Cleanup Revolving Loan Fund (CRLF) Grant Program: This program provides funding for an eligible recipient to capitalize a revolving loan fund and to provide subgrants to carry out cleanup activities at brownfields sites. A grant of up to \$1,000,000 is available for an eligible entity to capitalize on a revolving loan fund. Funds must be used for contaminated site cleanup, not for site improvements such as roads or new buildings.

The CRLF may be used to provide no-interest or low-interest loans for Brownfields cleanup to private parties, government agencies, and non-profit agencies. It may also be used to provide Cleanup Grants to eligible entities and nonprofit organizations. Sixty percent (60%) of the funding must be utilized for loans with no more than 40 percent (40%) of the funds used for grants.

A CRLF grant requires a 20 percent (20%) cost share, which may be in the form of a contribution of money, labor, material, or services. EPA may grant a waiver for this cost share requirement based on hardship.

The performance period of these grants is generally five years. The recipients of this program are selected through a national competition.

• <u>Cleanup Grant Program:</u> This program provides direct funding for an eligible recipient, who owns the site, to carry out cleanup activities at Brownfields sites that they own. Funding for cleanup grants includes up to \$200,000 per site (up to five sites) for sites

contaminated with hazardous substances, pollutants or contaminants, and/or petroleum. An environmental assessment must have been completed, and funds must be used for cleanup, not for site improvements such as roads or new buildings.

Cleanup grants require a 20 percent (20%) cost share, which may be in the form of a contribution of money, labor, material, or services. An eligible entity must own the site for which it is requesting funding in order to qualify.

The performance period of these grants is generally two years. The recipients of this program are selected through a national competition.

1.2.2 NHDES Brownfields Program

The NHDES Brownfields Program encourages the redevelopment of contaminated properties through provisions that limit the legal liability of owners or prospective buyers who redevelop contaminated sites and who meet the program's eligibility criteria. A brief summary of the Brownfields programs offered by NHDES is provided below.

<u>Direct Assistance Program</u>

• <u>State-Conducted Targeted Brownfields Assessment Program:</u> New Hampshire offers a program similar to the EPA-conducted program, where assessments are performed by a State-hired contractor on behalf of an eligible entity to perform site assessments, to develop cleanup options and cost estimates, and to perform community outreach.

Financial Assistance Program

Brownfields Cleanup Revolving Loan Fund Program: This program provides flexible "short to medium term," low interest loans to property owners, developers, and/or municipalities to fund the remediation of contaminated properties. Loans typically range from \$50,000 to \$200,000 (with no set maximum), with a negotiated interest rate that is usually between 3 percent and 7 percent. Terms of the loan are typically up to 10 years, with a preference for short-term (6-18 months) "bridge" style loans.

Liability Protection Program

• <u>Covenant Program</u>: This program provides comprehensive liability protection to eligible persons who voluntarily assume responsibility for the cleanup of contaminated properties.

1.2.3 Eligibility For Brownfields Funding

Eligibility for Brownfields funding is dependant on both who you are, and the type of site being considered, including property ownership status as described below.

Entities Eligible For Brownfields Funding

Entities that are eligible for Brownfields funding, as defined in the 2002 Brownfields Revitalization Act, include the following:

- Governmental entities eligible to apply for and receive <u>assessment</u> and <u>revolving loan</u> <u>fund grants</u> include State, local, and tribal governments, with the exception of Indian tribes in Alaska, as well as a range of government entities, including: a general purpose unit of local government or land clearance authority or other quasi-governmental entity operating under the control, supervision, or as an agent of a local government; a governmental entity or redevelopment agency created or sanctioned by a State; or a regional council of governments. An Alaska Native Regional Corporation and an Alaska Native Village Corporation as those terms are defined in the Alaska Native Claims Settlement Act, and the Metlakatla Indian community are eligible.
- Entities eligible to apply for and receive <u>cleanup grants</u> include those eligible governmental entities identified above as well as non-profit organizations and non-profit educational institutions. (Please see another Question and Answer for EPA's definition of a non-profit organization that applies to this program.) All eligible entities, including non-profit organizations, must own the site and provide documentation to demonstrate ownership (e.g., copy of the fee simple title) prior to the award of the cooperative agreement and no later than Sept. 30, 2004.
- For profit organizations *are not* eligible for Brownfields grant funding from EPA.

Sites Eligible For Brownfields Funding

Sites that are eligible for Brownfield funding include those sites contaminated by petroleum or a petroleum product, sites contaminated by controlled substances, or mine-scarred lands. EPA excludes the following types of facilities from funding eligibility:

- A facility that is listed on the National Priorities List or is proposed for listing;
- A facility that is the subject of a unilateral administrative order, a court order, an administrative order on consent or judicial consent decree that has been issued to or entered into by the parties under Comprehensive Environmental Response Compensation and Liability Act (CERCLA); and,
- A facility that is subject to the jurisdiction, custody or control of a department, agency, or
 instrumentality of the United States, except for land held in trust by the United States for
 an Indian tribe.

EPA grant funds may be awarded for either community-wide or site-specific Brownfield projects. A community-wide Brownfield project is one where specific sites are not identified and the funding is typically used for environmental assessment and/or other activities such as inventorying of Brownfield sites. A site-specific Brownfield project is one that the funding will primarily be used for environmental assessment at specified sites.

Site eligibility is also dependant on ownership and how/when the site was acquired. The following provides a brief summary of significant ownership criteria.

- If the site was acquired by a *formal foreclosure* process, the site *is eligible* as long as contamination of the site occurred prior to foreclosure.
- If the site was *purchased* or *donated prior to January 11, 2002*, the site is *not eligible* unless you can meet CERCLA exemptions to liability.

- If the site was *purchased* or *donated* <u>after to January 11, 2002</u>, the site is eligible if the entity meets the definition of a Bona Fide Prospective Purchaser as a person, or tenant of that person, who acquires ownership of a facility after January 11, 2002, and establishes the following:
 - 1. Disposal at the facility occurred prior to acquisition;
 - 2. The person made all appropriate inquiry into previous ownership and uses of the facility in accordance with generally accepted practices and in accordance with the new standards contained in CERCLA;
 - 3. The person provides all legally required notices with respect to hazardous substances found at the facility;
 - 4. The person exercises "appropriate care" with respect to the hazardous substances found at the facility by taking "reasonable steps" to stop any continuing releases; prevent any threatened future release, and prevent or limit human, environmental or natural resource exposure to any previously released hazardous substance;
 - 5. The person provides full cooperation and access to the facility to those authorized to conduct response;
 - 6. The person is in compliance with any land use restrictions and does not impede the effectiveness or integrity of any institutional control;
 - 7. The person complies with any information request or administrative subpoena under CERCLA; and
 - 8. The person is not potentially liable for response costs at the facility or "affiliated" with any such person through a direct or indirect familial relationship or any contractual, corporate or financial relationship (excluding relationships created by instruments conveying or financing title or by contracts for sale of goods or services).
- If the site was acquired by *eminent domain* the site is *eligible* as long as the municipality acquired the site after the release of contamination took place, the release and resulting damages were caused by a third party, and due care is taken with respect to contamination to prevent exposure and control the release. The EPA may have additional requirements to maintain the third party defense under CERCLA liability.

1.2.4 Contact Information and Resources

For more information about the EPA Region 1 Brownfields Program, contact the Regional Brownfields Coordinator at (888) 372-7341 (EPA New England Customer Call Center). Visit the EPA Region 1 Brownfields website at http://www.epa.gov/region1/brownfields/.

For more information about the New Hampshire Brownfields Program, contact NHDES at (603) 271-3503. The current Nashua Brownfields coordinator is Mr. H. Keith DuBois, and may be reached at (603) 271-2987 or by e-mail at https://www.des.state.nh.us/HWRB/hwrbbfld.htm. Visit the NHDES Brownfields website at https://www.des.state.nh.us/HWRB/hwrbbfld.htm.

Additional website resources for Brownfields information include, but are not limited to, the following:

- The Cooperative Brownfields Technology Support Center at http://www.brownfieldstsc.org/;
- U.S. Army Corps of Engineers (USACE) at http://www.usace.army.mil;
- The Carnegie Mellon/University of Pittsburgh Brownfields Center at http://www.ce.cmu.edu/~brownfields;
- The Institute for Responsible Management at http://www.instrm.org/index.html;
- The Brownfields Non-Profits Network at http://www.brownfieldstsc.org/links_index.htm;
- The Interstate Technology and Regulatory Cooperation at http://www.itrcweb.org/common/default.asp; and
- The Northeast Waste Management Officials' Association at http://www.newmoa.org/Newmoa/htdocs/cleanup.

1.3 UNDERSTANDING THE REGULATIONS THAT GOVERN ADS SITES

Asbestos is heavily regulated both at the federal and State levels because of the known health hazards associated with asbestos exposures. In recent years, NHDES has taken significant steps in developing a regulatory framework for ADS Sites that is protective of public health and provides guidance to educate communities so that affected people can make informed decisions and use good judgment to protect themselves and others from potential asbestos exposures on their properties. The following provides a brief summary of key rules and regulations that apply to ADS Sites that require consideration through the investigation and remedial processes.

- <u>40 CFR 61.151</u>: Federal Standard For Inactive Waste Disposal Sites For Asbestos Mills and Manufacturing and Fabricating Operations. This regulation includes practices and procedures for properly managing properties with ACM contamination.
- <u>29 CFR 1910</u>: Federal Occupational Safety and Health Standards. This regulation includes practices and procedures for safe work practices as they relate to asbestos.
- <u>RSA 141:E</u>: *New Hampshire Asbestos Management and Control Act.* Provides statutory authority for New Hampshire rules.
- Env-Wm 3900: New Hampshire Administrative Rules for Management and Control of Asbestos Waste Disposal Sites. These rules specify requirements for the following:
 - Covering, monitoring, and maintaining ADS Sites;
 - Undertaking and controlling excavation or disturbance of ACM contamination;
 - Activity and use restrictions; and
 - Record keeping and reporting.
- <u>Env-Wm 2601</u>: New Hampshire Administrative Rules for Management of Certain Wastes Asbestos. These rules specify the practices and procedures for the management of ACM waste including collection, storage, and transfer/disposal of ACM.

• <u>He-P 5000</u>: New Hampshire Administrative Rules for Asbestos Management. These rules specify practices and procedures to ensure that ACM contamination is handled in a manner that prevents the release of asbestos fibers to the environment and include aspects of training, licensure, and certification; safe work practices and provisions for inspection, compliance monitoring and enforcement by NHDES.

Pursuant to Env-Wm 3904.08, owners of properties that contain ACM-contaminated waste, disposed on the site prior to July 10, 1981 are required to register the site with NHDES. Landowners are also required to place a notice in the chain of property title at the registry of deeds.

2.0 SITE IDENTIFICATION PROCESS

A technical approach has been developed by GZA for the site selection process to aid others in prioritizing ADS Sites for investigation and remedial planning under the Brownfields Program. This approach reflects the knowledge and experience GZA gained through the investigation and remedial strategizing stages for ADS Sites in Nashua as part of a Supplemental Brownfields Demonstration Pilot Grant awarded to the City of Nashua by EPA in 2002. In Nashua, there were far more ADS Sites than the grant could provide investigation/remedial planning funding for, which required the City to prioritize sites to focus its investigation efforts. This section is intended to provide general guidance for the site selection/prioritization process, which involves identification and location of known or suspected ADS Sites, research of the abutting properties, and preliminary prioritization of sites for investigation through initial site inspections, evaluation of development potential, and estimations of site-specific investigation budgets. Based on this preliminary information, ranking criteria can be determined that will aid in the final selection of sites to be investigated using Brownfields grant money.

Early community involvement is critical to the success of site redevelopment, and suggested approaches to facilitate local interest and participation are provided below. It should be noted that a cornerstone to project success is communication and consensus between all the stakeholders including, the entity undertaking the project, the respective NHDES and EPA liaisons that oversee the project from a regulatory perspective, developers, lending institutions, environmental/remedial consultants, and the public (especially nearby residence).

2.1 LOCATE AND RESEARCH ADS AND ABUTTING PROPERTIES

The first steps in the site selection process involve identifying the known and suspected ADS Sites in your community. These steps have been designed to assist locate useful information.

Step # 1 - Where are the known ADS Sites in your city/town?

The New Hampshire asbestos program is managed through the Solid Waste Management Bureau (SWMB) of NHDES. The SWMB is responsible for maintaining the State registry of designated ADS Sites in addition to identifying and inspecting these ADS Sites. The currently known ADS Sites registry for your city/town can be obtained by contacting NHDES at (603) 271-3503. Currently, Mr. Tom Livingston is coordinating the ADS Sites registry, and can be reached at 603-271-2925, or by e-mail at tlivingston@des.state.nh.us. The ADS Sites registry may contain a summary fact sheet on your site of interest.

Note: There may be additional sites that NHDES considers "suspect" and have not been fully investigated at this time. These sites, known as Unconfirmed Sites to be Evaluated, have not been designated ADS Sites, and may not appear on the ADS Sites registry. To identify if there are "suspect" sites with a potential for becoming an ADS Site in the future, ask NHDES if any exist in your city/town that they are aware of.

Once you have obtained the list, it is recommended that you plot them out on a map to best visualize the location of these properties respective of each other. This can be done using sophisticated methods such as with drafting software (AUTOCAD) or simply obtaining a tax map of your city/town and hand marking each lot identified as an ADS Site.

Step #2 - Identify if there are abutting or other properties where asbestos waste may be present.

It has been shown, more often than not, that ADS Sites are located in what NHDES calls "ADS Sites clusters." Typically, ACM waste was provided as free fill to facilitate land development over large tracts of land, such as wetlands or topographic low areas. These areas generally consist of more than one lot and, as a result, where there is one ADS Site, there may be more. To help identify if there are suspect sites near a known ADS Site, obtain and review historical topographic maps of the area and delineate areas that appear to have undergone significant filling activities prior to the 1970s.

Historical United States Geologic Survey (USGS) topographic maps for New England and New York can be viewed online at http://docs.unh.edu/nhtopos/nhtopos.htm. Current USGS topographic maps are readily available in paper form from USGS directly, on CD-ROM, and on the Internet. They are also often available in public libraries.

Step # 3 − Conduct a State file review.

The next step, which is a companion to Step #2, is to take the list of designated ADS Sites and any additional properties that were identified as "suspect" and conduct a file review at NHDES. The purpose of the file review is to determine if there is any information in the agencies files regarding previous site investigations or remedial actions that took place at the site. Through the file review process you may discover additional properties that NHDES suspects ACM contamination extends to that have yet to be designated ADS Sites.

State file reviews are conducted through appointments. To request an appointment contact NHDES at (603) 271-3503 or filereview@des.state.nh.us. Currently, Ms. Ariel Parent is responsible for coordinating file reviews and may be reached at (603) 271-2919. Depending upon how busy the State is, a file review can typically be conducted within one to two weeks of a request.

2.2 PRIORITIZE SITES FOR INVESTIGATION

Now that you have identified the ADS Sites or suspect ADS Sites in your town/city, the next set of steps are designed to help prioritize these sites for further investigation under the Brownfields Program.

<u>Step #4 – Organize your sites.</u>

If your community has a long list of ADS Sites and suspect ADS Sites, it is important to organize the site information so it is properly evaluated. Information important to help you organize and prioritize these sites includes: property ownership (private or public), zoning, current land use, is the ADS Site located in a cluster, are other types of contamination present, and the tax status (are there back taxes owed to the city/town?). Generating a table, such as the example shown in **Table 1**, allows you to quickly disseminate the information you need regarding a specific parcel to aid in organization. How you organize this list will depend in part by where you intend on focusing your resources. In the example of Nashua, the City initially decided that the focus would be commercial/industrial City-owned ADS Sites. As a result, ADS Sites in Nashua were initially organized by site owner (public or private) and further organized by zoning.

Resources used for this step include your City/Town Assessor's database, which provides tax map and lot number, current owner, zoning etc. If this information is not readily available online (e.g., electronically) such as was the case with Nashua, a visit to the Town Assessor's office would be required.

<u>Step #5 – Perform an initial site inspection.</u>

Performance of an initial inspection of each of the prospective sites is very important to ascertain site-specific information that may influence prioritization redevelopment potential or if there are environmental concerns. Using Nashua as an example, several City-owned ADS Sites were eliminated following the initial inspection because they were not deemed suitable for any type of development as the lot consisted of a steep roadway embankment or a wetland for example. The initial site inspection should include both visual and photographic documentation of the following:

- Areas with suspect ACM visible on ground surface;
- Identification of any imminent health hazards;
- Form of ACM, either friable or non-friable;
- Current land use and abutting property land use;
- Identification of potential receptors and ACM exposure pathways;
- Sampling and analytical confirmation of suspect ACM;
- Identification of suspect areas including:
 - Topographic features indicating possible filling activities had occurred,
 - ACM debris on the ground surface or protruding from a slope or into a surface water body/wetland,
 - Areas of distressed vegetation,
 - Unnatural hummocks on the ground surface, sometimes in a grid-like or symmetrical pattern, and
 - Areas where refuse/solid waste disposal is apparent;

- Identification of access limitations for equipment and exploration limitations such as underground utilities or overhead power lines; and
- Identify what exploration techniques would be appropriate for the site (backhoe, hand auger, etc.).

The best time of year to perform such inspections is early spring, prior to significant vegetation growth. Once vegetation has established itself, it can be very difficult to observe ACM as it often blends in with the surrounding soil or is easily covered by grasses and broad leaf ground cover.

Based on our experience, it is helpful to develop an inspection checklist for the person responsible for performing these inspections. This ensures that collection of consistent data at all the sites and the data is complete. Look for an example of the field form used in Nashua in **Appendix D**. The person(s) performing the inspections do not need to be licensed or certified ADS Site workers, but it is critical that they are experienced with ACM and ADS Sites in general and can recognize potential forms of ACM.

Step #6 – Assess investigation budget requirements for each site.

The next step is to prepare an estimate for the investigation costs for each selected site. The estimates will vary considerably between sites depending on the size of the site, the area(s) to be investigated, and the degree of characterization required. Typically cost estimates will be prepared by the environmental company hired to perform the investigation work, which is experienced both in Brownfields and ACM investigations. There is a guide prepared by EPA for the review of engineering cost estimates titled "Cost Estimating Tools and Resources for Addressing the Brownfields Initiatives" (EPA 625-R-99-001). This guidance document is intended to provide information to Brownfields stakeholders to make informed decisions regarding investigation cost estimates.

Cost estimates need to consider the scope of work and type of investigation techniques most appropriate for each site. Regardless of site characteristics, you must budget for the preparation and submittal of an NHDES ADS Site Work Plan (Work Plan), prepared by a certified ADS Site worker, and a NHDES/EPA Quality Assurance Project Plan (QAPP). The Work Plan will be required if you intend to disturb more than 160-square feet, or 35-cubic feet of any material mixed with ACM, in accordance with Env-Wm 3905.05. The QAPP will be required when analytical data is generated on a federal- or State-funded Brownfields project.

Step #7 – Evaluate the development potential of each site.

To focus on properties that have the greatest potential for redevelopment under Brownfields, it is advisable to conduct an independent development potential analysis, including recreation, to aid in determining which sites will be high priority for further investigation. In the case of Nashua, an independent developer with a record of successful Brownfields redevelopment experience was utilized to perform this analysis. Site characteristics that should be considered in this analysis, at a minimum, include: lot size, topography, ease of access for traffic, zoning, current and surrounding land use, and perceived suitable land use. Refer to **Appendix E** for an example matrix.

2.3 DEVELOP RANKING CRITERIA

The ranking criteria or weighing factors reflect the information obtained in Steps 1 through 7 outlined above and generally include the following:

- Ownership;
- Tax status in the city/town;
- Current land use of site and abutting properties;
- City/town master plan for area;
- Redevelopment potential;
- Is there an existing redevelopment plan for the site;
- Current zoning/potential for re-zoning;
- ADS Sites location relative to other ADS Sites (cluster);
- Potential extent of ACM contamination; and
- Estimated cost of investigation.

The relative importance of any one of these criteria will be dependant upon the project-specific redevelopment goals and objectives, and the consensus of the stakeholders. Combined, decision makers can use these indicators to establish a structured system for prioritizing sites. As an example from Nashua's experience, refer to **Figure 1** illustrating the logic flow diagram developed for this project based on the project goals and objectives outlined by the City. Once you apply the weighing factor to each criteria and follow the agreed upon decision logic, the result will be a prioritized list for further investigation. The weighing factors are useful when there are more sites to be investigated (after using the decision logic) than there is budget for.

2.4 INVOLVE THE LOCAL COMMUNITY

Public interest, acceptance, and understanding is an important aspect for a successful Brownfields site and overall project outcome. There are always concerns of local residents who live near Brownfields. Their concerns generally include (1) the real and/or perceived health hazards; (2) how the redevelopment will affect property values; and (3) the potential impacts to their overall quality of life. Providing a forum for the public to express their concerns and opinions, and to possibly share otherwise unknown site history, is essential. Public involvement can take the form public television meetings, cable and radio talk shows. informational/invitational flyers, information repositories (such as a public library), and project web sites. The most effective tool(s) will depend on the intended audience. It was GZA's experience that utilization of a professional public relations firm helped maximize the effectiveness of the project plan to engage the public.

The first step in involving the local community is to determine the stakeholders to: (1) ensure effective communication regarding Brownfields project issues and objectives; (2) understand questions and concerns of the community and abutters; and (3) obtain any site-specific information that could help better understand the possible contamination issues. Stakeholders include anyone directly involved with or affected by the property, its former use, or its proposed reuse. Property owners, lenders, developers, community members, State, local, and federal government representatives, and non-profit organizations all may have some relationship to a

Brownfields property and, therefore, an interest in its redevelopment. To initially identify community members most affected by a Brownfields Site, a database should be established with all of the property owners including abutters and nearby residence/businesses within a selected radius of a site using a current Tax Assessor's Map. The database should include mailing addresses for each property owner to mail notifications for public meetings.

The next step is to facilitate public participation in the project. A Brownfields Public Participation Plan (Plan) should be developed to outline the public relations approach for the project. This Plan identifies strategies designed to raise public awareness about the Grant(s) and the Grant(s) objectives, and to create opportunities for interested persons to participate in the Brownfields process.

Public meetings can serve as a primary mechanism for participation during the life of the Brownfields project. In our experience, two public meetings were appropriate for the Brownfields Program in Nashua, one public meeting in the beginning once the initial site selection process was complete, and the second public meeting soon after the completion of the field work, but before completion of the evaluation of cleanup options. The purpose of the first meeting is to inform the public which sites are being recommended for investigation, gain their support, and identify if the public has any information to share regarding the past disposal practices at each site. A questionnaire that can be distributed at the first public meeting is recommend to help gather information on past activities at the site(s) not documented in agency files, and begin to identify preferred future land uses. Refer to Appendix F for an example of the questionnaire used for the City of Nashua's first public meeting. The purpose of the second meeting is to inform the public of the investigation findings and discuss potential future land uses given the extent of contamination identified, and the estimated costs to remediate. Developing a brochure that serves as an invitation to a public meeting that includes general Brownfields, as well as project specific, information is a useful tool in introducing the program and announcing the public meetings. Refer to Appendix G for an example of the Nashua brochure for the first public meeting for the project.

In addition to the two public meetings for the Nashua project, an interview on the local cable television talk show was conducted, as well as various press releases, and project deliverables were submitted to the Brownfields information repository at the Nashua Public Library. The City also attended scheduled focus group meetings with a core group of concerned citizens to discuss project progress and provide the opportunity for the public to express concerns or opinions regarding the project.

3.0 SITE CHARACTERIZATION

The site characterization phase of the Brownfields process is a critical step because future decisions regarding remediation and redevelopment will depend on the quality of the data generated during this phase. Results will be used to determine cleanup goals, quantify risks, determine what is acceptable and unacceptable risks, and whether or not the property can be cleaned up to the level necessary for its intended reuse. Site characterization activities will be unique for each ADS Sites, and the challenge will be to perform these investigations in accordance with the site-specific redevelopment goals and applicable State and Federal regulations. Where there is an existing redevelopment plan, the ACM investigation will be focused and tailored to the intended end use of that ADS. Where the end use is not yet know, the ACM investigation will be more conservative and may have higher investigation costs. In either

case, the overall objective will be to determine the nature and extent of ACM contamination in order to evaluate remedial strategies designed to meet applicable regulations and the desired levels of protection at each ADS. Once the development concept is selected for a site, remedial solutions and cost estimates may need to be re-evaluated, as the costs may vary depending on final site design, remedial strategy selected, and the sequencing of site activities.

To achieve this objective, an appropriate scope of work, developed using the information gathered as part of the site selection process, needs to be prepared and an approved ADS Work Plan and QAPP must be in place. The scope of work should reflect the data that must be collected to support the re-use goals of the site and resolve any uncertainties for its successful redevelopment. The investigation sampling plans should be site-specific, flexible, and dynamic and should allow for adjustments in the field in light of actual field conditions observed.

This section provides general information regarding techniques available to assess ACM contamination, and guidance in preparing the ADS Site Work Plan and QAPP documents, and the designing of the investigation effort.

3.1 TECHNICAL APPROACHES TO ASBESTOS INVESTIGATIONS

An evaluation of investigation technologies for each ADS Site should consider both established and innovative techniques. Established technologies for ACM investigations include test pit explorations, test borings, and shallow hand probes using a shovel or hand auger. The following provides a brief summary of what each technique accomplishes and their respective benefits and limitations based on GZA's experience conducting the ADS Site investigations in Nashua.

Established Exploration Techniques for Asbestos Investigations

EXPLORATION TECHNOLOGY	EQUIPMENT	BENEFITS	LIMITATIONS	RELATIVE COST
Test Pit Explorations (shallow to moderate depth) (10 feet-15 feet)	Backhoe or Excavator	Rapid advancement - can do multiple locations in one day. Large excavation face provides greatest degree of confidence in visualizing dispersed ACM and identifying demarcation of ACM waste.	 Physical reach of equipment typically between 10 feet and 15 feet. Sidewall collapse an issue at depth. Greater need for engineering controls to prevent and monitor release of asbestos fibers to the environment. If track-mounted equipment used and ACM is near surface, equipment may disturb ACM over a larger area than just test pit. 	• Less expensive (\$700- \$900 per day*)

EXPLORATION TECHNOLOGY	EQUIPMENT	BENEFITS	LIMITATIONS	RELATIVE COST
Test Borings (shallow to deep)	Direct Push using Geoprobe	Rapid advancement - can do multiple locations in one day. Limited disturbance to subsurface ACM – if calculated volume less than 160-square feet or 35-cubic feet you may not need an ADS Site Work Plan. Limited need for engineering controls to prevent and monitor release of asbestos fibers to the environment.	Difficulty penetrating through debris often accompanied with ACM debris. Limited sampling core (1-2 inch diameter), may miss dispersed ACM or larger pieces.	• More expensive (>\$1,000 per day*)
	Drive and Wash	 Good if ACM extends to any considerable depth. Use of drilling fluid (water) minimizes potential for asbestos fiber emissions. Limited need for engineering controls to prevent and monitor release of asbestos fibers to the environment. 	Slow Limited sampling core (2 inch diameter), may miss dispersed ACM or larger pieces.	• More expensive (>\$1,000 per day*)
Hand Probes (shallow)	Shovel or Hand Auger	Good in accessing locations that are otherwise inaccessible to larger equipment.	 Physical reach typically between 0.5-inches and 12 inches, possibly 2-feet depending on soil conditions. If difficult soil conditions, may be a slow process. Greater need for engineering controls to prevent and monitor release of asbestos fibers to the environment. 	Least expensive in terms of equipment

Note: For each technology it is assumed that an ADS Site Work Plan will be required if disturbing more than 160 square feet or 35 cubic feet. * Costs are an estimate representing equipment only.

An innovative approach to consider in ADS Site investigations is the use of geophysical techniques, which was successfully applied in Nashua. Ground Penetrating Radar (GPR) technology provided a way to spatially characterize the subsurface without disturbing buried ACM. GPR is a well established subsurface investigation tool used for targeting buried tanks, utilities, contaminant plumes, etc., but to our knowledge has not been used to locate buried ACM prior to the Nashua ADS Sites investigations.

The principle behind GPR is that electromagnetic energy is transmitted into the ground, and energy is in turn reflected back to the surface from various subsurface interfaces with contrasting electrical and physical properties. The greater the contrast between two materials, the stronger the reflection observed. GPR data is collected in a continuous spatial array, sufficient to evaluate the subsurface using a 3-demensional model.

It has been GZA's experience that buried bulk ACM is identified in geophysical survey results as less resistive material relative to native soil, and that GPR technology can in fact differentiate ACM from soil when buried in bulk. Geophysics are not expected to be able to differentiate ACM-contaminated fill when the actual ACM content is low (e.g., fill mixed with isolated pieces of ACM). GPR technology was applied at multiple Nashua properties with success at most ADS Sites. Specific limitations of GPR include poor performance in conductive native materials and surface vegetation often inhibits the transmission of signals. Additionally, inclement weather conditions, extremely complex mixtures of fills and utilities, and ground surface obstructions (such as parked cars and metal fences) can influence the success of GPR.

Although potentially a very powerful tool in ACM investigations, the interpretation of geophysical data is very complex and requires an experienced professional data analyst. As a result, geophysical surveys can be costly if the area to be investigated is large. The intent behind this technique is to characterize a representative small area(s) (e.g., 100-foot by 100-foot area cost was approximately \$900) that you can use to extrapolate the extent of ACM contamination with a high degree of confidence. Because of the limitations of this technique, it is recommended that the GPR survey results be field verify by a limited number of test pit explorations. Test pits need only confirm the presence of ACM and, as a result, (1) an ADS Site Work Plan would not be required if you terminate the test pit at the first sign of ACM (limit active digging to clean soil); and (2) would not require air monitoring, nor personal protective equipment normally needed during active ACM disturbance. If the ADS Site is amenable to geophysical characterization, advantages of implementing this technology include the following:

- The ability to determine the vertical extent of ACM beyond the physical capability of a backhoe. As an example, the depth of ACM at one site in Nashua was determined to be up to 35 feet below ground surface. This was a significant finding as future land use included construction of a building. When it was realized that the depth of ACM was significant, the building foundation support design was changed;
- Limited disturbance of ACM and potential risk of releasing asbestos fibers to the atmosphere; and
- Cost-effective characterization of your site.

Geophysical investigations are non-invasive surveys and do not involve the disturbance of buried ACM contamination. As such, the company performing the work and it's field technicians are not required to be licensed or certified ADS Site workers, unless ACM is on the ground surface.

3.2 ADS SITEWORK PLAN AND QUALITY ASSURANCE PROJECT PLAN

3.2.1 ADS Site Work Plan

A NHDES-approved ADS Site Work Plan will be required if you intend to disturb more than 160 square feet or 35 cubic feet of any material mixed with ACM, in accordance with Env-Wm 3905.05. A work plan must be prepared by ADS Site certified workers pursuant to He-P5012 and submitted to NHDES for review and approval, with a copy submitted to your city/town health officer. There are two basic types of work plans, which include a site-specific and generic ADS Work Plan. The requirements for each are detailed in Env-Wm 3906.04 and 3906.05, respectively. It has been GZA's experience that the generic ADS Work Plan was designed for general use where there is the likely potential for encountering ACM. This may exist in reoccurring types of work undertaken at indeterminate times and places by entities such as utility companies, and is more difficult to obtain NHDES approval.

It is our recommendation that as soon as a scope of work has been determined and you have the required information for a site-specific ADS Work Plan for each site you plan to investigate, contact NHDES to start a dialog and gain support for a multi-site ADS Work Plan. It has been our experience that NHDES is amenable to a hybrid approach of the site-specific and generic ADS Work Plans when multi-site ADS Site investigations are taking place under the umbrella of a larger project with similar investigation techniques applied at each ADS Site. Questions regarding ADS Site Work Plans can be directed to NHDES, Solid Waste Division at (603) 271-3503. Currently, Mr. Thomas Livingston, Mr. David Rousseau, and Mr. Michael Sills address ADS work plan related questions and may be reached at (603) 271-2925.

One component of the ADS Work Plan is identifying the appropriate health and safety precautions used during active ACM waste disturbance. As a good practice, this section should reference the site-specific health and safety plan developed by the firm performing the excavation work.

3.2.2 Quality Assurance Project Plan

The EPA requires that all federally-funded environmental monitoring and measuring efforts participate in a quality assurance program. Any Brownfields funded project generating data must therefore prepare a QAPP that formally documents the quality assurance and quality control (QA/QC) steps and other technical activities that will be implemented to ensure that the results of the work performed will satisfy the stated performance criteria. The QAPP documents the project planning process, enhances the credibility of sampling results, and produces data of known quality. Data validation of a Modified Tier I analytical data package is required. The Modified Tier I data package consists of the following:

- Sample Identifications and Results;
- Chain of Custody;
- Solids Data;
- Surrogate Data;
- QA/QC Narrative Report;
- Summary Narrative Page;
- Blank Analytical Results;
- Matrix Spike Analytical Results;
- Laboratory Control Sample Results;
- Duplicate Results; and
- Matrix Spike Duplicate Results.

There are several EPA published guidance documents for the preparation of a QAPP including the following:

- *Guidance for Quality Assurance Project Plans*, EPA QA/G-5. EPA 240-R-02-009, dated December 2002;
- Guidance Requirements for Quality Assurance Project Plans, EPA QA/R-5. EPA 240-B-01-003, dated March 2001;

- EPA New England Compendium of Quality Assurance Project Plan Requirements and Guidance, dated October 1999; and
- Quality Assurance Guidance for Conducting Brownfields Assessments. EPA 540-R-98-038, dated September 1998.

3.3 DESIGNING AND IMPLEMENTING THE INVESTIGATION PROGRAM

The technological approach to characterizing ACM contamination will vary based on site-specific characteristics such as the type of vegetative cover, access limitations for equipment, and the site's infrastructure and its relative location to the contamination. You may find that your approach includes a combination of investigation techniques, which are complimentary based on possibly the size of the site or various access issues or limitations depending upon the redevelopment goals of the ADS Site.

When selecting the appropriate approach(s), keep in mind that because of the health hazards associated with ACM, the technology and sampling program must be designed to minimize the disturbance of ACM. The excavation, removal, exposure, or other disturbance of ACM at an ADS Site needs to be conducted in a manner that is protective of human health, safety, and the environment, and must comply with Env-Wm 3900. The selection of appropriate engineering controls to prevent the release of asbestos fibers to the environment should consider the following, in accordance with Env-Wm 3905.6:

- Pathways by which asbestos fibers could be released from the site to the environment, includes, but is not limited to, releases to the air and/or surface water, and releases off-site by contaminated persons or equipment leaving the site;
- Number and proximity of human receptors;
- Prevailing wind direction;
- Weather and seasonal conditions, including but not limited to, frozen ground and flooding;
- Project duration;
- Quantity and area of asbestos being disturbed;
- Nature of the asbestos being disturbed, including:
 - Whether it is friable or non-friable, and
 - If non-friable, whether it has the potential to become friable when disturbed;
- Vertical and lateral limits of the asbestos disposal site;
- Depth and type of cover materials;
- Existing site features, including, but not limited to:
 - Surface topography,
 - Property lines, rights-of-way, and easements,
 - Surface waters and wetlands,
 - Roadways, driveways and parking areas,

- Buildings and other structures,
- Aboveground and underground utilities, and
- Aboveground and underground storage tanks;
- Slope stability;
- Load bearing capacity of the site;
- Visibility and illumination;
- Site accessibility;
- Site history information; and
- Site assessment and characterization information, and degree of confidence that the information is both complete and accurate.

Actual engineering controls selected will be site-specific; however, they may consist of a combination of the following: Site work zone control to (1) establish or delineate clean and contaminated work areas; (2) to control the flow of personnel and equipment through the site; (3) Site access control and security; and (4) Excavation/ACM Disturbance minimization techniques including soil/ACM wet methods and limiting the actual area of disturbance.

The following describes the components of an investigation program and when it makes sense to utilize a particular technique to reach your redevelopment goals for the ADS Site. It is assumed in this section that all investigation techniques performed are done in accordance with the NHDES-approved ADS Site Work Plan, EPA/NHDES-approved QAPP, and the appropriate health and safety precautions indicated in the site-specific Health and Safety Plan. Any earthwork ordinarily involving the disturbance of ACM-contaminated fill at an ADS Site must be performed by an NHDES-licensed contractor with certified workers in accordance with New Hampshire He-P 5000.

As with most contractors hired to perform investigation work, the anticipated work schedule is important to keep in mind. Typically, contractors are backlogged at least two to three weeks out, and laboratories typically provide a standard-turn-around time of two weeks for data results (unless you pay a premium). Understanding what your scheduling needs and project objectives are, and planning early on in this process by communicating with your contractors, will help to advert a schedule problem down the road. Throughout the process, routine communication with the contractors is essential to ensure that the work being performed is of your expectations and will result in the information desired to achieve the redevelopment goals.

3.3.1 Geophysical Investigations

Geophysical surveys are innovative and a potentially powerful tool in determining the extent of ACM contamination at applicable ADS Site. The real benefits are being able to obtain data with no disturbance to buried ACM, and having the ability to investigated the vertical limit of ACM waste beyond conventional techniques, such as backhoes that are limited to the top 10 to 15 feet. The following includes examples of sites considered to be favorable candidates for geophysical investigations based on GZA's experience:

- Sites where previous investigations or site information indicates bulk ACM is buried;
- Sites that consist of small study areas that can easily be extrapolated to the larger site area;
- Sites with large, relatively flat areas, with limited vegetation;
- Sites with parking lots or other finished ground surfaces where disturbance of such needs to be kept to a minimum; and
- Sites with close proximity to the public, particularly playgrounds, schools etc., where invasive techniques that require aggressive engineering controls are less desirable.

If you have a site that has similar characteristics that appears to be a good candidate for a geophysical investigation, begin a dialog with a contractor who specializes in geophysical investigations. Prior to the geophysical survey work, the contractor should be made aware of all the known geologic and ACM information, and the intended use of the data being collected to maximize the success of the survey. The contractor should be aware that they should be responsible for providing recommended locations for field verification of the geophysical survey results. In other words, places for you to perform test pit explorations to validate the contractor's findings. It is also important to establish a manageable size for the investigation based on the contractor's experience in characterization, cursory site information, and your budget, as the cost goes up considerably with increased investigation area.

It has been GZA's experience that if the site has had a history of complicated fill and excavation, included significant utilities, or had significant vegetation (e.g., tall grass or trees) that interfered with the ability of the instrumentation, geophysical techniques were less effective. Sites where there is potential difficulty in getting the survey area cleared from obstacles (particularly metal objects), such as an active parking lot, may prove to be difficult sites to perform geophysical testing. In these circumstances, consider the option of blocking off the area during the testing.

As indicated above, if a geophysical survey is performed, you will need to perform field verification, to a limited extent, to verify the findings. It was GZA's experience that three test pits located within the grid of the survey (maximum grid size of 100 feet by 100 feet) was sufficient to confirm with confidence the geophysical survey findings.

3.3.2 Test Pit Explorations

Test pit explorations are the most widely applied technique to ascertain the physical extent of ACM contamination, and one that appears supported most strongly by the NHDES. This type of exploration allows you to make visual observations of the exposed face of the test pit sidewall or bottom, and screen the material excavated. Being able to make these observations provides a high degree of confidence that the limits of ACM contamination have been defined if a sufficient number of test pits have been performed. This becomes increasingly difficult if the quantity of ACM is limited and widely dispersed within the fill, or if the type of ACM (i.e., baghouse waste) blends in with native soils or fill making its distinction difficult.

Test pit explorations can be performed at virtually any site. Issues to consider include physical access limitations of the equipment to the areas you intend to investigate, steepness of any embankments, damage to the root system of significant vegetation or trees, proximity of surface or groundwater, proximity to any foundations or utilities, etc. Additionally you will want to consider the current state and/or condition of the ground surface. If the ground surface is asphalt, will you need to repair that surface with cold patch or re-pave it? Is the ground surface grass or

turf, and will you need to re-seed or restore that surface? If subsurface ACM is close to the ground surface, there is a risk that there may not be sufficient clean cover soil to segregate and subsequently backfill over the test pit explorations. A contingency for bringing in clean fill as additional cover material is recommended to be protective of human health and the environment.

The main limitation of test pit explorations is that the overall depth is limited generally to between 10 feet and 15 feet below ground surface. In most cases this should be sufficient to define the vertical extent; however, at one site in Nashua, GZA observed ACM-contaminated fill in excess of 35 feet below ground surface. If the vertical extent of ACM is a critical design feature (as in a building foundation) in future re-development of the site, a combination of geophysical surveys or test borings may be considered.

The number of test pits performed will be based on the size and how representative the area is that requires characterization, in addition to the overall project budget. The challenge will be to limit the amount of invasive work to only what is necessary to resolve the unknowns to support decision making for the redevelopment goals.

3.3.3 Test Borings

Test borings involve discrete soil sampling at depth using drive and wash methodology. Drive and wash is based on the principal that drilling fluids are used to force soil cuttings to the ground surface as opposed to augers or air. This type of casing advancement is slower and more cumbersome than a traditional hollow stem auger method, however by introducing drilling fluid (usually water) you minimize or eliminate the possibility of releasing fugitive asbestos emissions to the atmosphere as material is brought to the ground surface. This technique alone is not recommended for the delineation of ACM contamination in fill. The reason for this is the inability of the split spoon sampler to collect a large enough sample area to determine if ACM is present. Often times if ACM is limited in quantity and diffused within fill, the presence of ACM may not be determinable using soil borings. This technique is best used when attempting to determine the vertical extent of ACM contamination, as would be needed for building foundation design for example.

Test borings can be performed at virtually any site, similar to test pits. Issues to consider include physical access limitations of the equipment to the areas you intend to investigate, steepness of any embankments, proximity to any foundations or utilities, etc.

3.3.4 Shallow Hand Probes

Shallow hand probes, performed using a hand auger or shovel, are typically used in cases where investigation areas are inaccessible to larger equipment such as a backhoe, excavator, or drill rig. These areas may include heavily wooded areas, steep embankments, or areas between buildings or utilities. Depending on the ease of advancement based on soil conditions, the depth to which you can visualize and sample ACM contamination is typically limited to the top 2 feet.

If a hand auger is used, a limiting factor may be the inability to capture a large enough sample area to determine if ACM is present. As is the case with test borings, if ACM is limited in quantity and diffused within fill material, the presence of ACM may not be determinable using hand probes. ACM may be present at the site, but may not show up in the selected hand auger location or sample. Better success may be had using a shovel as you can increase the exposed face of the sample location and have a greater degree of confidence in the visual observations.

3.3.5 ACM Sampling, Laboratory Testing, and Data Validation

Asbestos cannot be positively identified without microscopic analysis by a qualified laboratory technician. Trained professionals can recognize forms of ACM in the field that have a high probability of containing asbestos, but as it degrades, ACM often looks similar to the soil that surrounds it. Baghouse waste is particularly difficult to identify in soil. To resolve the uncertainty, it is recommended that a representative sample of each type of suspect ACM observed be submitted for laboratory analysis. The analytical data can be used defensibly to support future decision-making regarding the limits of buried ACM waste. For areas where no ACM was observed, we recommend taking a composite soil sample and having it analyzed for asbestos. As indicated above, certain forms of ACM are difficult to differentiate from soil. Asbestos analysis will confirm whether the suspect samples exhibit ACM contamination. The number of samples collected and analyzed will be based on the number of sample locations designated to appropriately characterize the site. In addition to the number of different types of ACMs that may be encountered during the investigation, to the appropriate level of quality control sampling must be performed as required in your QAPP.

ACM samples should be collected in accordance with the procedures outlined in your QAPP. Samples should be analyzed by a State and Federally accredited laboratory with expertise in performing asbestos analysis. A list of New Hampshire Environmental Laboratory Accreditation Program-accredited laboratories can be located at the following website address: http://www.des.state.nh.us/asp/NHELAP/lablist.asp. The National Environmental Laboratory Accreditation Conference is an organization sponsored by EPA that is responsible for accrediting laboratories at the federal level and can be located at the following web address: http://www.epa.gov/ttn/nelac/accreditlabs/accreditlabs/accreditlabs/22203.pdf.

Bulk ACM samples (e.g., not mixed with soil) should be analyzed by EPA Method 600/R-93/116 using Polarized Light Microscopy (PLM). Composite soil samples should also be analyzed by EPA 600/R-93/116, however because this is a qualitative method, it is recommended that 10 percent of the results that do not detected asbestos should be re-analyzed using a quantitative EPA protocol method⁶ to evaluate the potential for false negatives. A more rigorous PLM or transmission electron microscopy analysis method, modified from EPA 600/R-93/116, may be either quantitative or semi-quantitative, using a visual area estimate procedure. Because these methods are quantitative (or semi-quantitative) and more specific, it is more expensive.

In accordance with EPA guidelines, analytical data generated as part of the Brownfields process must be validated following Modified Tier 1 guidelines in accordance with "Region 1, EPA-NE Data Validation Functional Guidelines For Evaluating Environmental Analyses." This information, as well as additional QA/QC procedures, should be detailed in your QAPP.

Page 23 of 26

⁶ EPA Method -Screening Soil and Sediment Samples for Asbestos Content by US EPA Region 1 Laboratory (Rev May 24, 1994)

4.0 REMEDIAL PLANNING

4.1 EVALUATION OF REMEDIAL STRATEGIES

There are three basic strategies typically used for cleaning up an ADS Site, including removal and off-site disposal of the ACM contamination, containment and/or capping ACM contamination in place, or a combination of removal and containment and/or capping. The remedial planning phase needs to integrate these cleanup strategies with redevelopment alternatives or goals in consideration of the investigation findings and other applicable information gathered as part of the site selection process. You need to determine what is practical, protective of human health, and what is cost-effective at each ADS Site. Consider what the risk of asbestos exposure is under both the current and redevelopment scenarios. Finally, consult and involve NHDES and EPA early in the decision-making process to ensure that the remedial strategies evaluated and ultimately selected are acceptable from a regulatory perspective.

NHDES suggests that "the best remedial alternative depends on a number of factors including: type and quantity of waste, location and depth of waste, terrain, drainage, and other geophysical features and presence of buildings, driveways underground utilities and the like". Complete removal of ACM contamination, although ideal, is often not practical due to the high cost of disposal, particularly when you are dealing with large quantities. Capping can be a more cost-effective solution, provided it is designed properly and the cap is maintained over time and an Activity and Use Restriction is implemented.

Requirements for capping are detailed in Env-Wm 3904.03 and generally described within the NHDES document titled "Guidance for Managing Asbestos Disposal Sites," dated May 2000. These requirements specify that a cap must prevent ACM from resurfacing over a 100-year period and must consist of at least 2 feet of soil cover. Federal regulations specify that ADS Site must have no less than 6 inches of soil cover; however, since New Hampshire soils are subject to freeze-thaw cycles, the State prefers that the ACM be buried below the frost line, which has been interpreted in the Nashua/Hudson area to be 2 feet below ground surface.

Once familiar with these typical remedial approaches, the next set of steps involve determining an appropriate remedial strategy for your ADS site. These steps generally include the following:

- Evaluation of the investigation findings and determination of the limits or extent of ACM contamination on the property. Confirm that the uncertainties have been addressed and there are no additional data gaps that might require further investigation.
- Consider the redevelopment objectives relative to where the ACM contamination has been confirmed. Are there any constraints on certain types of development that need to be considered in designing a remedial program? Do you need to revise the redevelopment goals given the extent of ACM contamination and project finances?
- Given the site-specific characteristics, decide what options make the most sense (capping or removal) and develop a conceptual plan for remediation. For example, the conceptual plan for a site may be straightforward and simple such as the excavation of ACM-contaminated fill down to five feet over a defined area. Depending on the redevelopment goals and the physical extent of ACM contamination however, the actual plan may be more complex and consist of a combination of both capping and removal across the property.

- Are institutional controls warranted (i.e. activity and use restrictions)? These controls are effective mechanisms intended to prevent exposure to contamination left in place.
- Using the conceptual plan, develop a cost and schedule to implement the plan. Typically this would be prepared by the engineering consultant and would generally consist of the following costs:
 - Project management;
 - Final remedial design work;
 - Development of an ADS Site Work Plan;
 - Labor and equipment for removal and/or capping;
 - Materials needed such as fill for capping or to displace material that is removed, appropriate health and safety equipment, etc.;
 - ACM waste disposal (if removal is selected) that can be estimated based on the volume calculated using vertical and lateral extent information from the investigation; and
 - Site restoration (e.g., finished landscaping) requirements based on redevelopment goals.
- Integration of public opinion. It's at this time that the second public meeting should be held to communicate the investigation findings and discuss potential future land uses given the extent of contamination identified, and the estimated costs to remediate. The recommendations of future land uses and remedial approaches would be finalized after the second public meeting.

4.2 REPORTING/DOCUMENTATION

Documentation throughout the Brownfields process is critical to quality assurance. The remedial approach and rationale for its selection is typically documented in a Remedial Action Plan (RAP), which is submitted to and approved by NHDES. Requirements and expected content of a RAP are described in Env-Wm 1403.08, and are generally discussed in the NHDES draft document titled "Guidance Document For Preparation of Remedial Action Plans," dated November 1996. This document was originally developed for petroleum remediation projects; however, much of the general content and structure is useful in helping to convey the appropriate information to the decision-makers at the appropriate agencies. Another means of reporting and documentation of remediation of ACM is through the NHDES ADS Site Work Plan.

In the event the redevelopment scenario has not been finalized, it is advisable to wait on preparing the RAP, and document the remedial strategies as part of an investigation report. The RAP would then be submitted once the redevelopment scenario was determined.

5.0 SUMMARY

Communities are now confronted with how to cost-effectively manage ADS Sites to protect human health, bring properties into compliance with State regulations, and promote redevelopment of these properties. Because of both real and perceived human health threats of potential asbestos exposures at ADS Sites, these sites often become abandoned or underutilized.

Brownfields Programs through EPA and NHDES are available to communities for investigation and remediation of these ADS Sites. This guidance document has been prepared using the knowledge and experience gained through the investigation and remedial planning process of the Nashua ADS Sites under Nashua's 2002 Supplemental Brownfields Grant in hopes of helping other communities address ACM contamination by reducing the threats to human health and returning these properties to productive reuse through the Brownfields Program.

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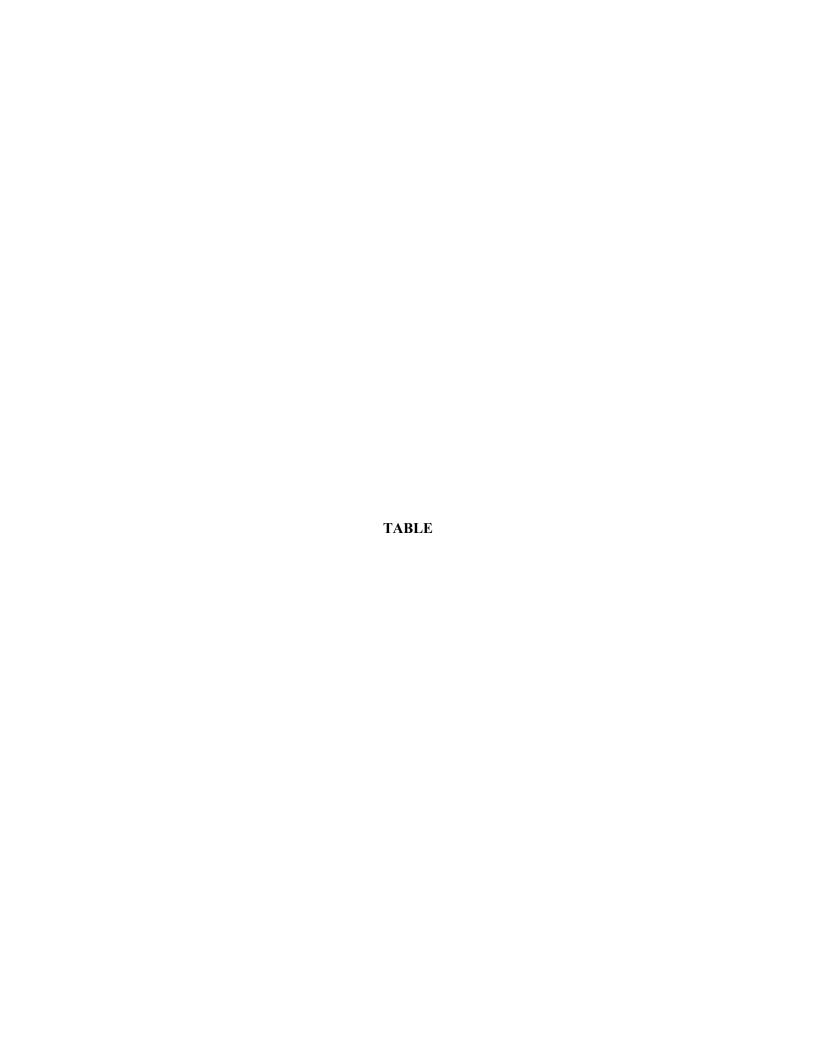


Table 1

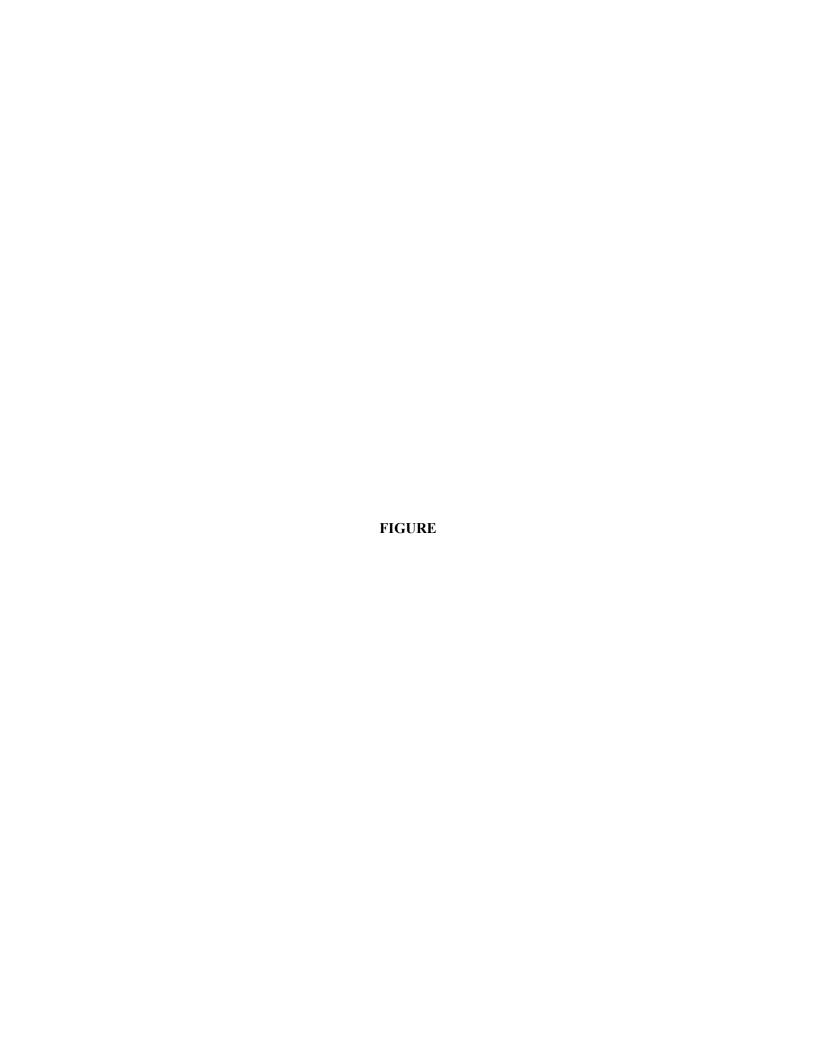
INITIAL LIST OF ASBESTOS DISPOSAL SITES TO POTENTIALLY INVESTIGATE NASHUA, NEW HAMPSHIRE

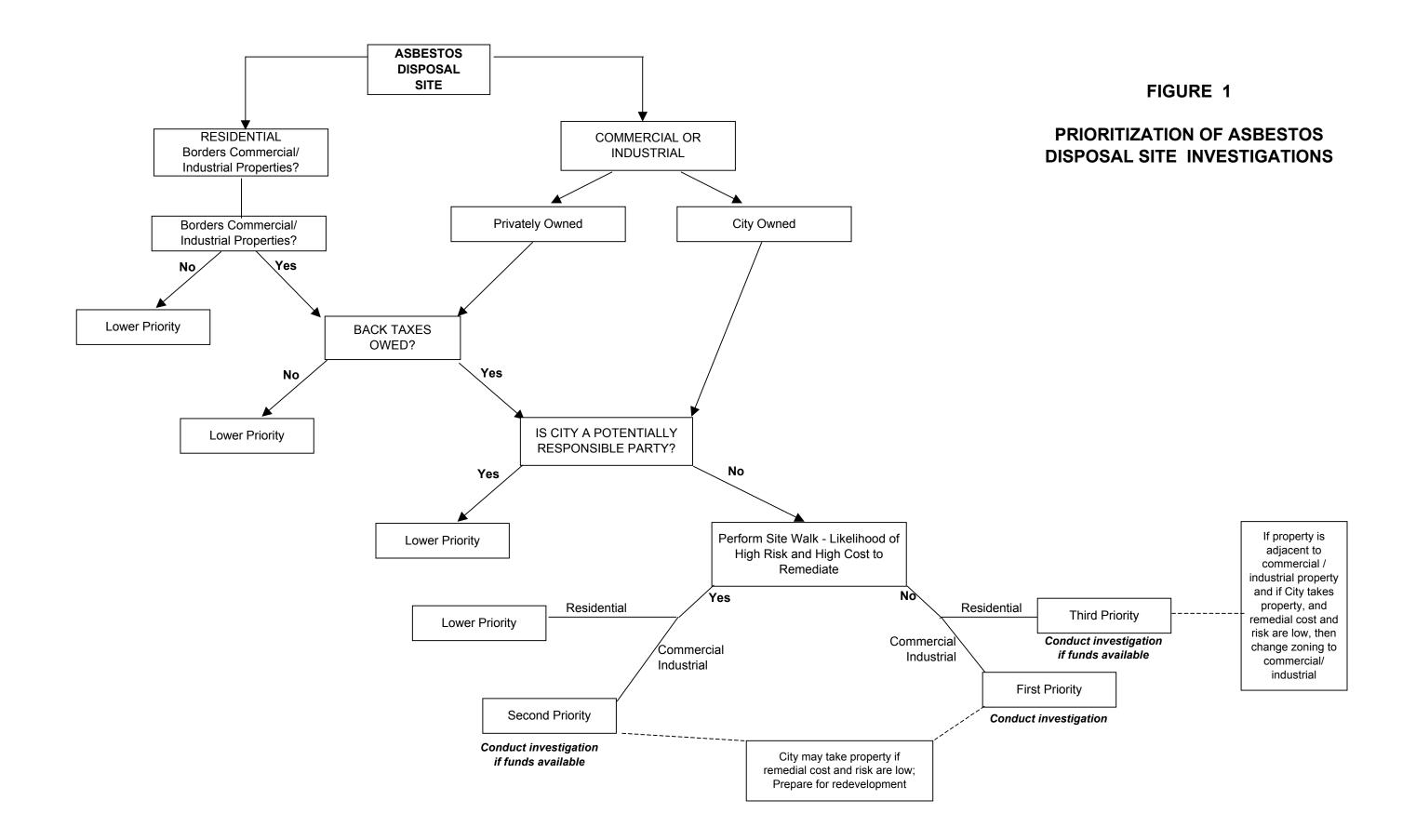
ADS Site No.	Tax Map No. and Lot No.	Name of Owner	Site Address	Zoning	Zoning Code	Other Contamination Present		
CITY-OWNED RESIDENTIAL								
192 Park & School Grounds	22/4&5	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	36-38-50 Arlington Street Nashua, NH 03060	B urban residence	RB	Yes		
223 Recreational	34/30	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Rear Temple Street Nashua, NH 03060	C urban residence	RC	No		
283 Public Park	108/8 &76	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Fields Grove Recreation Park Nashua, NH 03060	A urban residence	RA	No		
309 School Grounds	B/62 Searles Elementary School	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Shady Lane Nashua, NH 03060	C suburban residence	R9	Yes		
328 Public Park	E-1407, 2191, 75/271	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Mines Falls Park Nashua, NH 03060	C suburban residence	R9	No		
222 Commercial	34/76	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	76 Temple Street Nashua, NH 03060	C urban residence	RC	No		
221 Undeveloped Land	34/21	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	84 Temple Street Nashua, NH 03060	C urban residence	RC	No		
244 River Bank	41/12 101 houses on Walden Pond Drive	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	10 Walden Pond Drive Nashua, NH 03060	A urban residence	RA	No		
258 Undeveloped Land	62/42	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Amherst Street Nashua, NH 03060	B urban residence	RB	No		
263 Undeveloped Land	62/84	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Putnam Street Nashua, NH 03060	B urban residence	RB	No		
264 Undeveloped Land	62/86	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Prescott Street Nashua, NH 03060	B urban residence	RB	No		
268 Undeveloped Land	70/12	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Intervale Street Nashua, NH 03060	B urban residence	RB	No		
284 Undeveloped Land	109/36	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Oakland Avenue Nashua, NH 03060	A urban residence	RA	No		
292 Undeveloped Land	62/83	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Putnam Street Nashua, NH 03060	B urban residence	RB	No		

Table 1

INITIAL LIST OF ASBESTOS DISPOSAL SITES TO POTENTIALLY INVESTIGATE NASHUA, NEW HAMPSHIRE

ADS Site No.	Tax Map No.	Name of Owner	Site Address	Zoning	Zoning Code	Other Contamination Present
		CITY-OWNED	COMMERCIAL/INDUSTRIAL			
Transportation Roadway no asbestos has been observed at this site, but is believed to be there because of the site location	24/18	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	East Hollis Street Nashua, NH 03060	General Industrial	GI	No
200 Undeveloped Land	24/18	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	WBMR/parallel to River, East Hollis Street Nashua, NH 03060	General Industrial	GI	No
241 Undeveloped Land	40/34	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	WBMR/North of Bridge Street Nashua, NH 03060	General Industrial	GI	No
242 Undeveloped Land	40/37	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	10 Sanders Street Nashua, NH 03060	General Industrial	GI	No
321 Commercial	E/60	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	125 Pine Hill Road Nashua, NH 03060	Airport Industrial	AI	No
325 Undeveloped Land	E/60	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Pine Hill Road Nashua, NH 03060	Airport Industrial	AI	No
			-OWNED MIXED USE			
219 Public Access	33/104	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	2 Court Street Nashua, NH 03060	Central business Mixed use overlay district C urban residence	CB MU 70% 30%RC	No
225 Recreational	33/50	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	33-50 Park Street Nashua, NH 03060	Central business Mixed use overlay district C urban residence	20% CB MU 80% RC	No
257 Public Park	46/31	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	Atherton Avenue Park Nashua, NH 03060	A urban residence C urban residence	60% RA 40% RC	No
183 Undeveloped Land	16/36	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	One Fifield Street Nashua, NH 03060	A urban residence B urban residence	RA - 25% RB - 75%	No
229 Commercial	34/2	The City of Nashua Nashua Environmental Health Department c/o Michael V. Tremblay, Health Officer	40-46 Park Street Nashua, NH 03060	Central business Mixed use overlay district C urban residence	155 CB-MU 85%RC	No
		PRIVATEI	Y-OWNED RESIDENTIAL			
261	62/61	Security Homes c/o Mr. Rene Lallave	Bennett Street Site Nashua, NH 03060	B urban residence	RB	Yes
269	70/13	Warren W. Kean Trustee, The Chester Realty Trust	Intervale Street, Nashua, NH 03060	C urban residence	RC	Potentially





02-375.4 \FIG 1.xls\Figure 5

APPENDIX A

LIMITATIONS

LIMITATIONS

1. The conclusions and recommendations included in this guidance document are based in part upon GZA's knowledge and experience gained through the Brownfields investigations and remedial planning stages of ADS Sites located in Nashua, New Hampshire under Nashua's 2002 EPA awarded Supplemental Brownfields Grant. Should additional data, changes to the asbestos and Brownfields regulations, and/or the Brownfields process in general occur in the future, the recommendations provided in this guidance document should be reviewed by GZA, and the recommendations presented therein modified accordingly.

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APPENDIX B NHDES GUIDANCE FOR MANAGING ASBESTOS DISPOSAL SITES, MAY 2000

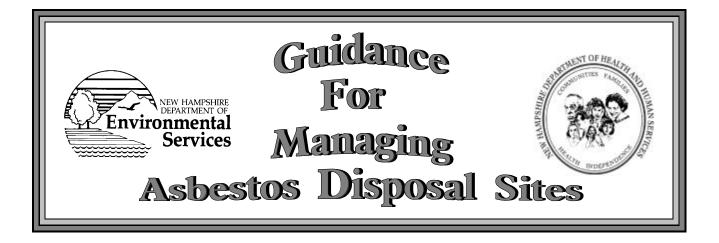
Guidance for Managing Asbestos Disposal Sites





published by
the New Hampshire Department
of Environmental Services
in cooperation with
the New Hampshire Department of
Health and Human Services





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Robert W. Varney, NHDES Commissioner George Dana Bisbee, NHDES Assistant Commissioner Philip J. O'Brien, Director of NHDES's Waste Management Division

May 2000

T his guidance document is being made available as one of the many steps in developing a regulatory framework for asbestos waste sites that is protective of public health. Other materials relating to this regulatory effort will be published and distributed as appropriate.

This guidance document may be periodically updated. The most current version of the document can be found on the Internet at www.des.state.nh.us. Additional copies are available from the New Hampshire Department of Environmental Services. See Section V for address and other contact information.

~Acknowledgments~

This document was prepared by the Solid Waste Management Bureau at the New Hampshire Department of Environmental Services (NHDES), in cooperation with the New Hampshire Department of Health & Human Services (NHDHHS). A special "thank you" is extended to Brook S. Dupee and the staff of the Office of Community & Public Health at NHDHHS for their technical assistance, as well as to Judy Small at NHDES for contributing her graphic design services and talents to arranging the layout of this document.

Photographs #1-16 in Section II of this document are provided courtesy of the U.S. Environmental Protection Agency. The photographs were taken at various locations in Nashua and Hudson, New Hampshire during the 1980's and were originally published in a pamphlet entitled "A Guide to the Identification of Asbestos Disposed in Soil", which was developed by the New England Regional Office of the U.S. Environmental Protection Agency, Office of Pesticides and Toxic Substances.



TABLE OF CONTENTS

PURPOSE
SECTION I: GENERAL INFORMATION
What is asbestos?
How was asbestos used by New Hampshire manufacturers?
Why should I be concerned about asbestos?
What health hazards are associated with asbestos?
What are the exposure pathways of concern?
SECTION II: SITE IDENTIFICATION
What does asbestos manufacturing waste look like?
Are all forms of asbestos waste considered a health hazard?
What should I do if I locate a site with asbestos manufacturing waste?
What should I do if I think I have been exposed to asbestos?
SECTION III: REMEDIAL MEASURES
What are "remedial measures"?
What remedial measures are typically used at asbestos disposal sites?
Which remedial alternative (removal vs. capping) is best?
What are the criteria for designing a cap? 20
What is the process for initiating and undertaking remedial action?
I expect remedial action to be costly. Why should I consider it?
SECTION IV: BEST MANAGEMENT PRACTICES FOR COVERED ASBESTOS
<u>DISPOSAL SITES</u>
Section Introduction
BMP 1.0: Activity and Property Use Restrictions
<i>BMP 2.0: Site Monitoring</i>
<i>BMP 3.0: Site Maintenance</i>
BMP 4.0: Imminent Hazard Response
BMP 5.0: Unplanned Encounters
BMP 6.0: Disclosure and Right-to-Know
BMP 7.0 Record Keeping 30
SECTION V: ADDITIONAL INFORMATION AND ASSISTANCE
Directory of Government Contacts
National Emission Standard of Hazardous Air Pollutants, 40 CFR 61.151 34
Sample/Model Notice for Chain of Title Recordation



PURPOSE

This document provides information needed by property owners to properly manage sites where asbestos manufacturing waste is known or suspected to be buried. Many such properties exist in New Hampshire. The largest concentration of confirmed asbestos disposal sites is situated in the Nashua/Hudson area where, over a period of approximately 70 years, asbestos waste from a local manufacturer was used to fill a number of residential, commercial and industrial properties. Asbestos products manufacturing plants also once operated in Tilton and Meredith, New Hampshire.

Because exposure to asbestos poses a risk to human health, there is a need to properly manage properties where asbestos has been disposed. In response to this need, the New Hampshire Department of Environmental Services (NHDES), in cooperation with the New Hampshire Department of Health and Human Services (NHDHHS), has compiled this guide for owners of asbestos disposal sites and others who live, work and recreate at or near asbestos disposal sites. The guide is organized into five major sections, to provide the following information:

SECTION I: GENERAL INFORMATION provides general background information about asbestos, asbestos health hazards,

provides general background information about asbestos, asbestos health hazards, asbestos manufacturing, and asbestos manufacturing waste disposal practices in New Hampshire

- **SECTION III:** REMEDIAL MEASURES

 identifies options, criteria and procedures for permanently minimizing the risk of human exposure to asbestos at sites where asbestos manufacturing waste has been disposed
- SECTION IV: BEST MANAGEMENT PRACTICES FOR COVERED ASBESTOS DISPOSAL SITES

 provides recommended practices and procedures for properly managing asbestos disposal sites

The primary objective of this guidance document is to educate and inform persons about asbestos disposal sites, so that they may exercise good judgement in protecting themselves and others from potential asbestos exposure. Although this guidance document provides sufficient information to achieve this objective, it does not contain sufficient detail for the reader to become an expert in the matter of handling asbestos-containing materials. Instead, the reader will learn how to recognize and avoid potential hazards relating to the presence of asbestos, with the understanding that professional assistance is needed in situations that require asbestos-containing materials to be handled or disturbed.



SECTION I: GENERAL INFORMATION

What is asbestos?

"Asbestos" is the name given to a group of minerals that occur naturally as masses of fibers which can be separated into thin threads and woven, or combined with binding materials and pressed into solid form. There are six primary types of asbestos:

- Chrysotile;
- Amosite:
- Crocidolite:
- Anthophyllite;
- Actinolite; and
- Tremolite.

Asbestos is non-combustible, is resistant to corrosion, has a high tensile strength and has low electrical conductivity. These characteristics, in addition to the material's relatively low cost, made asbestos an attractive material for producing a variety of commercial products over a period of 100 years, beginning around 1880. Such products included:

- Friction devices, for example clutches and brake shoes;
- Plastic products, for example floor tile, coatings and sealants;
- Paper products, for example roofing felt and gaskets;
- Textile products, for example curtains and gloves;
- Building construction materials, for example siding and roofing shingles, "cement board", peg board;
- Road construction materials, for example wearing surfaces and curbing; and
- Insulating products, for example boiler insulation, pre-formed pipe wrapping and troweled/sprayed coatings.

How was asbestos used by New Hampshire manufacturers?

For nearly a century, New Hampshire was home to a number of asbestos manufacturing facilities. Plants were located in Nashua, Meredith, and Tilton.

The Nashua plant, owned by the Johns-Manville Corporation, commenced operations around 1900. It ceased manufacturing asbestos-containing products in 1985 and the buildings were razed in 1997. The principal raw materials used at the Nashua plant consisted of asbestos fiber and Portland cement. These were combined to produce 4' by 8' sheets of "cement board" material which ranged from 1/8" to 4" in thickness. In addition, the Nashua plant produced a variety of other asbestos-cement products for construction and industrial uses, primarily durable insulation products.



For many years (c. 1900 - 1970) the Nashua plant made its asbestos-containing waste material available free of charge to area property owners for use as fill. Consequently, asbestos-containing waste material was dumped in large quantities throughout the Nashua/Hudson communities, generally to fill low lying areas and facilitate land development. Today, over 300 properties in Nashua and Hudson are identified as asbestos disposal sites. Additional sites are being identified each year.

Less is known about the waste disposal practices of the asbestos manufacturing plants formerly located in Meredith and Tilton. At the site of the Tilton plant, there are two areas which the company used to landfill asbestos waste. These areas are no longer in use and are capped with soil materials. In Meredith, asbestos waste was disposed of at the town landfill. The existence of other dump sites in Tilton and Meredith is not known.

Why should I be concerned about asbestos?

The U.S. Occupational Safety and Health Administration (OSHA) is aware of no instance in which exposure to a toxic substance has more clearly demonstrated detrimental health effects on humans than has asbestos exposure. For this reason, asbestos manufacturing has largely ceased in this country and a number of government regulatory programs have been established to address the safe management of asbestos within our living environment.

What health hazards are associated with asbestos?

The inhalation of asbestos fibers in high concentrations is known to cause:

- **Asbestosis**, a debilitating and irreversible respiratory illness which is characterized by a scarring of the lung tissue, or linings of the lung, which thereby reduces lung function and makes breathing more difficult;
- **Mesothelioma**, a cancer of the thin membranes lining the chest and abdomen, which is almost exclusively caused by exposure to asbestos and is almost always fatal; and
- **Lung cancer and other cancers**, including cancers of the larynx, tongue, sinuses, mouth, throat, stomach, colon, rectum, intestines, kidney, pancreas, and gall-bladder.

Symptoms of asbestos-caused diseases generally do not appear for 10-35 years after the first exposure to asbestos.

There is no known level of asbestos exposure which is considered risk free. Moreover, among people exposed to asbestos, cigarette smokers are at much greater risk of developing lung cancer than those individuals who do not smoke.



What are the exposure pathways of concern?

The inhalation of asbestos is the primary exposure route of concern. Ingestion of asbestos is another concern. Direct contact with asbestos is not of concern from the perspective of absorption through the skin. However, by making direct contact with asbestos, a person's skin or clothing can become contaminated with asbestos fibers and the fibers can then be carried into the home or workplace, where they may become airborne or transferred to the mouth. The same applies when tools, machinery or toys come in contact with asbestos-containing materials.

Asbestos fibers are not water soluble and do not move through groundwater to any appreciable extent. Based on studies of other insoluble particles of similar size, the expected migration rate of an asbestos fiber through soils by the forces of groundwater is approximately 1 to 10 centimeters (0.4 to 4 inches) per 3,000 to 40,000 years. Thus, asbestos is not considered a groundwater contaminant.

Although asbestos does not move with groundwater flow, it can move with surface water flow. Therefore, if asbestos waste is allowed to come in contact with rivers, wetlands and other surface water bodies, fibers may be transported to places that will result in human exposure, including intakes for drinking water supplies and recreation areas.





SECTION II: SITE IDENTIFICATION

What does asbestos manufacturing waste look like?

Asbestos cannot be positively identified without microscopic analysis by a qualified laboratory technician. However, the trained naked eye can spot materials on the surface of, or in soil, that have a high probability of being asbestos.

Generally speaking, asbestos manufacturing waste exists in the following forms:

- Pellets:
- **Spheres**;
- Whole sheets:
- "Plate waste" (sheet scraps/fragments);
- Rolled sheets:
- Dewatered sludge; and
- Baghouse" (dust collector) waste.

Asbestos manufacturing waste comes in a variety of colors, including gray, white, black, green, and red. After being in the soil for many years, it has a tendency to blend with its surroundings and becomes hard to distinguish from the natural soils. This is most often the case with "baghouse" waste, which is a fine, dust-like material which resembles soil particles.

However, the naked eye, trained by experience, can often detect the presence of asbestos manufacturing waste by also studying the physical characteristics of a site, including the vegetation and terrain. Based on experience, the following site features are considered key "indicators" for locating buried asbestos waste in areas of known dumping:

- Topographic features indicating that the site has been filled;
- Debris, typically in the form of pellets, spheres and/or plate waste, located on or near the surface of the ground, or protruding from steep banks or extending into surface waters and wetlands;
- Scant vegetation and/or vegetation consisting of moss, sumac trees, poison ivy, and/or pricker bushes;
- Hummocks along a forest floor, often in a grid-like or symmetrical pattern; and
- Refuse/solid waste items, such as glass bottles, cans and other household items.

The photographs presented on the following pages depict some of the many types, colors and forms of asbestos manufacturing waste dumped in the Nashua / Hudson area. Photographs #1 - 16 were taken by the U.S. Environmental Protection Agency during the 1980's while undertaking site remedial work in the area. The remaining photographs, taken by NHDES, were taken more recently in the Nashua/Hudson area. By studying these photographs, the reader can begin to understand how to recognize asbestos manufacturing waste.





 $\underline{FIGURE~1.}~Small~solid~objects~having~an~unnatural~appearance~such~as~spheres,~pellets~or~thin~gray~irregularly~shaped~material.$



<u>FIGURE 2.</u> Buried uniformly shaped solid objects $\frac{1}{2}$ to 1 inch in diameter, resembling stones. May be asbestos and could indicate the presence of larger quantities of the waste material. See Figure #1 for close up.





<u>FIGURE 3.</u> Protrusions of thin (1/4") irregularly shaped material from the soil may indicate that asbestos waste is buried below the surface. Round object in lower right is 2" diameter.

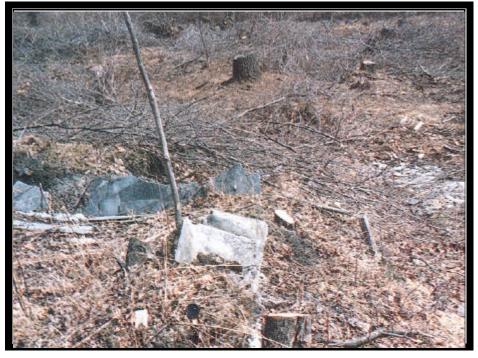


 $\underline{FIGURE~4.}~$ Areas of no or poor vegetation growth, with gray or colored areas of soft material which looks different than natural soil, should be suspect.

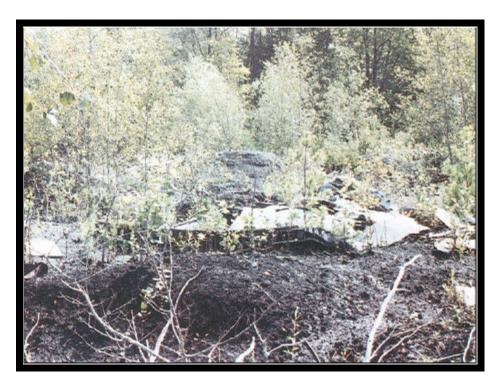




<u>FIGURE 5.</u> Very dark or black "soil" sometimes associated with moss growth should be analyzed for possible asbestos presence.



<u>FIGURE 6.</u> Piles or pieces of gray or colored sheets, usually 1/4" to $\frac{1}{2}$ " thick, either alone or with soft "soil," may possibly be asbestos.



<u>FIGURE 7.</u> Piles of black, gray, or green material that is soft or spongy to the touch, either alone or with pieces of gray sheets should not be dug in or walked on until tested for asbestos.



 $\underline{FIGURE~8.}~$ Gray or green deposits that have an unnatural soil appearance, usually void of grass, should be suspect.



<u>FIGURE 9.</u> Areas of woodland having poor growth and a flat surface, containing fragments or pieces of gray or green sheets may indicate an asbestos disposal site.



 $\underline{FIGURE~10.}$ Deposits of thin sheet fragments sticking out of, or lying on the ground. See Figure #13.





FIGURE 11. Small cylindrical shaped pellets, 1/4 inch in diameter.



 $\underline{\mbox{FIGURE 12.}}$ Piles of gray or colored sheets on the ground, or found buried in the ground.



 $\underline{FIGURE~13.}~Sheet~pieces~sticking~out~of~black~or~very~dark~"soil"~with~little~or~no~grass~growth.$



 $\underline{FIGURE~14.}~Light~gray~dust~on~black,~damp~soil~or~lighter~dry~soil.~Note~presence~of~green~fragments~and~light~balls.~All~are~asbestos.$



 $\underline{FIGURE~15.}$ Green and gray, soft or spongy material. Piles of sheet fragments. All are asbestos.







 $\underline{FIGURE~17.}~Plate~scrap~mixed~with~friable~baghouse~waste,~used~as~fill~beneath~paved~driveway.$



 $\underline{\text{FIGURE 18.}}$ Plate scrap mixed with friable baghouse waste buried beneath a few inches of soil in a residential yard. Note red, blue, white and gray colors.





<u>FIGURE 19.</u> Red and gray sheet waste and plate waste, mixed with black baghouse waste (near top of photo).



 $\underline{FIGURE~20.}~$ Excavation showing friable asbestos waste (red, white & black) and plate scrap.



Are all forms of asbestos waste considered a health hazard?

Yes. But the degree of risk will vary, depending on the potential for the material to release fibers. Generally speaking, asbestos-containing materials are classified as either "friable" or "non-friable":

- The term "friable" indicates the material can be crushed, pulverized, or reduced to powder, when dry, by hand pressure.
- The term "non-friable" indicates the material can not be crushed or pulverized under hand pressure.

Friable asbestos-containing materials pose a greater risk of exposure than do non-friable asbestos-containing materials. However, even non-friable asbestos-containing materials require careful handling and proper disposal. Non-friable asbestos-containing materials, when left exposed to the elements, will deteriorate and become friable over time. In addition, based on observed dumping patterns in Nashua and Hudson, it appears that the waste was often dumped in mixed loads, including both friable (e.g., baghouse waste, dewatered sludge, etc.) and non-friable (e.g., pellets, plate waste, etc.) asbestos-containing material. Therefore, it is prudent to assume that the presence of non-friable asbestos waste is indicative of the presence of friable asbestos waste, even though the friable material may not be visually apparent.

What should I do if I locate a site with asbestos manufacturing waste?

Contact the New Hampshire Department of Environmental Services (NHDES) or your local health officer. See Section V for contact information.

See also "Best Management Practices for Covered Asbestos Waste Sites" in Section IV of this document, specifically BMP 4.0 (Imminent Hazard Response) and BMP 5.0 (Unplanned Encounters).

What should I do if I think I have been exposed to asbestos?

Contact your physician for a baseline physical and professional advice. Also, be advised that smoking, combined with asbestos exposure, substantially increases your risk of developing respiratory illness.



SECTION III: REMEDIAL MEASURES

What are "remedial measures"?

The term "remedial measures" is used to describe actions undertaken to remedy environmental contamination problems. In the case of an asbestos disposal site, the term more specifically refers to actions which will provide long-term assurance that humans will not be exposed to asbestos at, or from, the site.

What remedial measures are typically used at an asbestos disposal site?

There are three basic approaches to remedying environmental contamination at an asbestos disposal site, either:

- Have all of the asbestos waste removed from the site to an authorized, secure landfill; or
- Have the site "capped" by covering the asbestos waste with non-asbestos-containing materials (for example, clean soil and vegetation) which are designed to prevent the waste from becoming re-exposed; or
- Have a combination of the above implemented.

Each of the alternatives requires professional assistance, typically involving specially trained and licensed contractors, industrial hygienists, and civil engineers with earthwork and waste management experience.

Which remedial alternative (removal vs. capping) is best?

The "best" remedial alternative depends on a number of factors, including:

- The specific characteristics of the site (e.g., type and quantity of waste; location and depth of waste; terrain, drainage, and other geophysical features; and presence of buildings, driveways, underground utilities, and the like); and
- The exposure risks posed by existing and allowable land use activities at the site.

Although waste removal can eliminate the long-term risks associated with a site, removal activities involving a large quantity of asbestos waste can significantly increase short-term risks, particularly in areas where the excavation work is difficult due to terrain conditions, poor access, unanticipated events including windy weather, and other factors. Further, removal can sometimes be the more costly solution in terms of up-front dollars. Following removal, the waste must be disposed at a permitted, secure landfill, thus involving transportation costs and disposal fees. The cost of refilling the excavated area with clean soil must also be considered, in addition to all other typical project costs, including air monitoring, site security, personal protection including respirators and disposable clothing, decontamination provisions for equipment and personnel, and use of specially licensed contractors.

When removal is not feasible, capping the waste in-place can provide a practical and cost-effective long-term solution, provided that the cap is properly designed, the best management practices specified in Section IV of this guide are strictly observed, and additional activity and property use restrictions are instituted as necessary to protect and maintain the cap for perpetuity.

What are the criteria for designing a cap?

To provide effective performance, a cap must be designed to completely isolate all of the asbestos-containing waste materials, in order to eliminate all pathways for human exposure (inhalation, ingestion, direct contact). The cap must also be designed to not deteriorate or become damaged under all anticipated site conditions. This means the cap must be designed to withstand the forces of nature (wind, water, frost, etc.) and, at sites used for human activity, the forces induced by such activity. For example, if the disposal area is used as a parking lot or driveway, the cap must be designed to support vehicular loads and withstand routine maintenance, including snow removal and the application of de-icing agents.

Federal requirements set forth in the National Emission Standards for Hazardous Air Pollutants or "NESHAP" (ref. 40 CFR 61.151) specify that inactive asbestos disposal sites must be covered by no less than 6 inches of non-asbestos-containing material, with vegetation, (i.e. clean soil and grass). However, if buried asbestos waste is subjected to repeated freeze/thaw cycles, it may eventually resurface. Therefore, to construct a cap that will minimize the potential for frost induced resurfacing, the asbestos should be buried beneath the frost line. Studies have shown that in the Nashua/Hudson area, at least 2 feet of soil cover is needed to protect against resurfacing over a 100-year period. Other types of cover materials, for example geotextiles, asphalt, and concrete, can also be used in some situations to form a barrier against resurfacing.

Soil caps must be compacted and graded to facilitate appropriate drainage patterns and to control erosion. In addition, the surface must be seeded, rip rapped, or otherwise treated to also protect against soil erosion. If the cap intercepts a surface water body and/or is situated in a flood hazard area, for example a cap situated along the edge of a wetland or river, special design considerations must be employed to withstand the anticipated water action and saturated conditions. For example, gabions (wire cages filled with stone) or standard rip rap can be effective choices for treating the surface of caps along water bodies.

Each site is different and, therefore, each cap design will likely be different. However, the underlying performance objective of providing a low maintenance, sustainable solution, must always be achieved in order for the remedial effort to be considered complete.



What is the process for initiating and undertaking remedial action?

NHDES has established a program to provide technical assistance to owners of asbestos disposal sites. Owners who undertake remedial action should first contact NHDES to coordinate the progression of remedial activities, to assure that the work is consistent with the remedial criteria and regulatory requirements.

There are four basic stages of remedial work:

- First, a site investigation is undertaken to characterize the site.
- Second, remedial options are evaluated and a decision made to either remove the waste, cap it in-place, or use a combination of both.
- Third, a remedial action plan (RAP) is developed, including cap design plans/specifications and provisions for safely carrying out the proposed work.
- Fourth, the RAP is implemented.

For additional detail about initiating and implementing the remedial action process, contact NHDES. See Section V for contact information.

I expect remedial action to be costly. Why should I consider it?

A fully remediated site is protective of human health. This is an important consideration, whether the site is owner occupied, leased or publicly owned/accessed. In addition, a site which is fully remediated is more likely to realize its maximum resale value and lending potential.



SECTION IV: BEST MANAGEMENT PRACTICES FOR COVERED ASBESTOS DISPOSAL SITES

The information provided in this section describes recommended practices and procedures for properly managing properties where asbestos waste has been buried. These recommendations are referred to as "best management practices" or "BMPs".

The BMPs contained in this guide largely rely on practical techniques for keeping asbestos manufacturing waste isolated and preventing the release of fibers to the environment. These techniques, while not "fool proof", are intended to provide sensible and workable measures for safely using and maintaining property where asbestos waste exists and is covered. Further, the BMPs are designed to comply with regulatory requirements, including federal standards for managing inactive asbestos disposal sites, as specified in 40 CFR 61.151. For a copy of this federal regulation, see Section V.

The BMPs presented in this guide are indexed by topic, as follows:

BMP 1.0	ACTIVITY AND PROPERTY USE RESTRICTIONS
BMP 2.0	SITE MONITORING
BMP 3.0	SITE MAINTENANCE
BMP 4.0	IMMINENT HAZARD RESPONSE
BMP 5.0	UNPLANNED ENCOUNTERS
BMP 6.0	DISCLOSURE AND RIGHT-TO-KNOW
BMP 7.0	RECORD KEEPING

From time to time, the following BMPs may be revised to include new information. If you own an asbestos disposal site, you should keep a copy of the BMPs with your property records, for reference and periodic updating. Updated BMPs may be obtained by mail from NHDES (see Section V for address information) or from the NHDES website at www.des.state.nh.us.



BMP 1.0: Activity & Property Use Restrictions

Land development and land use activities at asbestos disposal sites must be protective of cover materials, in order not to disturb the underlying asbestos waste and create an opportunity for human exposure. Federal regulation (40 CFR 61.151) prohibits the disturbance of any asbestos-containing waste material at the disposal site, unless prior notice is supplied to the United States Environmental Protection Agency (US-EPA) and the work procedures are tightly controlled to prevent asbestos emissions. Therefore, to help assure these requirements are met and to limit the potential for human exposure, the following activity and property use restrictions should be strictly observed at every asbestos disposal site:

- (1.1) Do not dig into or through cover materials. If digging becomes necessary due to an emergency or other unavoidable circumstance, first contact your local health officer and NHDES (see Section V for contact information) to obtain information necessary to comply with applicable regulations and to protect human health. <u>Under no circumstance should you dig into asbestos waste without first obtaining this additional information</u>.
- (1.2) Do not undertake land development and/or improvement plans which require underground systems to be constructed within the asbestos disposal area, including septic systems, utility lines, closed drainage systems, footings, foundations, wells, and in-ground swimming pools. Similarly, avoid placing utility poles, fence posts, sign posts and the like within the disposal area.
- (1.3) Do not plant trees and large shrubs within the disposal area. Understand that the root systems of trees and large shrubs within a disposal area have the potential to cause the asbestos to become exposed, either due to shifting the soil cover or being uprooted during a storm. In addition, if a deep rooted tree already exists within the disposal area and the tree must be removed, leave the stump in place.
- (1.4) Do not conduct vegetable or flower gardening within the disposal area, unless the garden is constructed as a raised bed garden which can be cultivated without disturbing underlying cover materials and waste.
- (1.5) Do not place your child's sand box within the disposal area, unless it has a solid bottom and you are certain your child will not dig through cover materials into the underlying asbestos waste.
- (1.6) If you have a dog that digs, do not tie it out in the area of asbestos fill.
- (1.7) Do not use the disposal area for any activity for which the cover materials are not designed. For example, do not drive motor vehicles, heavy equipment, ATVs or the like over or through the disposal area, unless the cover materials have been specifically designed to withstand the loading and wearing action, especially under muddy conditions.
- (1.8) Do not alter site terrain in such a manner as to cause drainage patterns to change and erode cover materials.
- (1.9) Always seek the advice and assistance of your local health officer, NHDES and other qualified professionals whenever there is any question about activity and property use restrictions, and/or the ability to carry out any activity without causing a release of asbestos fibers.



BMP 2.0: Site Monitoring

Asbestos disposal sites require frequent monitoring to assure that the cover materials remain in good condition and continue to isolate the asbestos. Site monitoring should be accomplished as follows:



- (2.1) Regularly (*) inspect the surface of the ground in and around the disposal area to assess the condition of the cover materials and look for exposed asbestos. In addition, repeat the inspection process after each significant weather event, including high intensity rainfalls, floods and wind storms. Signs of cover deterioration or damage include but are not limited to: erosion, settlement, cracking, stressed or dying vegetation, burrowing activity by rodents (moles, woodchucks, ground squirrels, etc.), and vandalism. Signs of exposed asbestos include any of the materials pictured in Section II of this guide. When looking for exposed asbestos, pay close attention to areas where the cover materials have deteriorated or been disturbed, as described above. Also, pay close attention to the area around the base of tree trunks. Growing root systems have the potential to cause asbestos to resurface.
- (*) Note: the recommended frequency of the regular inspections largely depends on individual site characteristics, including the depth/type of cover materials and type of land use. For example, at a site where there is less than optimum cover materials (i.e., a site which has not been fully remediated, as discussed in Section III) there may be a need to inspect site conditions more frequently than at a site which has been fully remediated. In any event, regular inspections should occur no less than twice a year: once in the spring after snowmelt but before leafy growth begins, and once in the fall after the ground vegetation has begun to die off, but before trees have begun to drop their leaves.
- (2.2) If any of the cover deterioration or disturbance problems noted in BMP 2.1 above are observed, implement cover repairs and address other cover maintenance needs as specified in BMP 3.0 (Site Maintenance).
- (2.3) If asbestos waste is found on, or protruding through, the surface of the ground, immediately notify your local health officer and NHDES. See Section V for contact information. Remember: exposed friable asbestos constitutes an imminent health hazard. Therefore, proceed only in accordance with BMP 4.0 (Imminent Hazard Response).
- (2.4) Cooperate with NHDES and your local health officer when either party wishes to inspect the site. Periodic inspections by trained personnel are an important part of protecting public and personal health.
- (2.5) Keep records of all inspections, for future reference. See also BMP 7.1.
- (2.6) Always seek the advice and assistance of your local health officer, NHDES and other qualified professionals whenever there is any question about site monitoring needs, and/or the ability to carry out any activity without causing a release of asbestos fibers.

BMP 3.0: Site Maintenance

Cover materials at asbestos disposal sites must be maintained to keep them in good condition. The following maintenance measures apply:

- (3.1) Make timely repairs to cover materials which are showing evidence of deterioration or damage, including but not limited to: erosion, settlement, cracking, stressed or dying vegetation, burrowing activity by rodents (moles, woodchucks, ground squirrels, etc.), and vandalism. However, if the repair of cover materials has the potential to disturb asbestos-containing waste materials or to otherwise cause an asbestos fiber emission, do not undertake the work without first consulting with your local health officer and NHDES to be certain the work is protective of human health and complies with regulatory requirements.
- (3.2) Water and fertilize cover vegetation to promote and sustain healthy growth. Reseed areas where needed. Use environmentally friendly fertilizers whenever possible.
- (3.3) Cut dead or dying trees within the disposal area before they are uprooted by storms. Leave the stump in place, so as to not disturb the underlying asbestos-containing waste materials.
- (3.4) Seal and patch asphalt and concrete surfaces which overlay asbestos waste, to prevent and repair cracks.
- (3.5) If frequent repairs are necessary at the same location for the same reason, identify the cause and look for a more permanent solution, including redesigning the capping system, upgrading the cover materials, or implementing an alternative land use.
- (3.6) Be certain the repairs do not violate local, state or federal requirements, including but not limited to: flood control, wetland and shoreland protection regulations. Always obtain all local, state and federal permits or approvals that are required to complete the work.
- (3.7) Always seek the advice and assistance of your local health officer, NHDES and other qualified professionals whenever there is any question about site maintenance needs, and/or the ability to carry out any activity without causing a release of asbestos fibers.



BMP 4.0: Imminent Hazard Response

Exposed friable asbestos constitutes an imminent health hazard. Therefore, if asbestos-containing waste material is discovered on or protruding from the ground surface (see Section II for representative pictures), immediate steps must be taken to eliminate the risk, as follows:

- (4.1) Upon discovery, report the condition to your local health officer and NHDES. See Section V for contact information.
- (4.2) For as long as the asbestos remains exposed, control access to the site to prevent entry by unauthorized and/or unprotected persons. Note: federal regulation (40 CFR 61.151) specifies that an asbestos disposal site which remains uncovered must be fenced and posted with warning signs, unless a natural barrier adequately deters access.
- (4.3) Assure that there are no visible emissions from the uncovered site, as required by 40 CFR 61.151. An effective means for doing so is to keep the exposed material moist, by using a fine spray or mist.
- (4.4) Take care not to walk through, drive through, touch, or otherwise make direct contact with the asbestos-containing material. Keep pets and children away from the area. Be aware that making direct contact with the asbestos may result in contaminating clothes and skin, which in turn may result in asbestos fibers becoming airborne or ingested.
- (4.5) Based on instructions provided by your local health officer and NHDES, engage the services of a qualified professional to develop a plan for covering or removing the asbestos-containing material. Referral lists are available from NHDES. See Section V for information about contacting NHDES and the local health officer.
- (4.6) Implement the plan, after consulting with NHDES and the local health officer to assure that the work is protective of human health and complies with regulatory requirements. Note: this type of work must be carried out by a professional who is properly equipped and trained. Lacking proper equipment and training, a person engaging in this type of work is at risk of personal exposure, causing other human exposures, and violating local, state, and/or federal regulation.
- (4.7) Always seek the advice and assistance of your local health officer, NHDES and other qualified professionals whenever there is any question about imminent hazard response actions, and/or the ability to carry out any activity without causing a release of asbestos fibers.



BMP 5.0: Unplanned Encounters

New asbestos disposal sites are periodically discovered. Therefore, there is always the potential to encounter asbestos-containing waste materials unexpectedly, for example during excavation activities, after severe storms, or while enjoying a walk in the woods. When this happens, the following applies:

(5.1) If the discovery is made during excavation activities, immediately cease work and implement BMP 4.0 (Imminent Hazard Response). Resume work only in accordance with a work plan that is protective of public and worker health, and which meets regulatory requirements, including 40 CFR 61.151 and standards set forth by the U.S. Occupational Safety and Health Administration. Consult with your local health officer and NHDES regarding the adequacy of the plan.

Note: this type of work must be carried out by a professional who is properly equipped and trained. Lacking proper equipment and training, a person engaging in this type of work is at risk of exposure and/or causing an exposure, and may be in violation of local, state, or federal regulation.

- (5.2) If the discovery is made during casual activity, for example while walking through the woods, take care not to walk through, drive through, touch, or otherwise make direct contact with the asbestos-containing materials; immediately remove yourself from the area; and immediately report the condition to your local health officer and NHDES so a response can be coordinated in accordance with BMPs 4.2 4.6.
- (5.3) Keep pets and children away from the area. Be aware that making direct contact with the asbestos may result in contaminating clothes and skin, which in turn may result in asbestos fibers becoming airborne or ingested.
- (5.4) Always seek the advice and assistance of your local health officer, NHDES and other qualified professionals whenever there is any question about dealing with an unplanned encounter, and/or the ability to carry out any activity without causing a release of asbestos fibers.



BMP 6.0: Disclosure & Right-to-Know

Knowledge that asbestos waste exists at a specific location is the best means for protecting against human exposure. By complying with the following disclosure and right-to-know practices, the property owner will protect others from being exposed to asbestos.

- (6.1) When preparing to sell the property, inform the real estate agent and prospective buyer(s) that asbestos-containing waste material exists on the property. Provide relevant information concerning the location of the waste, the depth and type of cover, regulatory requirements, activity and property use restrictions, and other best management practices.
- (6.2) When renting the property, inform the tenant(s) that asbestos-containing waste material exists on the property. Provide relevant information concerning the location of the waste, the depth and type of cover materials, regulatory requirements, activity and property use restrictions, and other best management practices. In the lease, stipulate the need to comply with the activity and property use restrictions (see BMP 1.0).
- (6.3) Prior to contracting for work which will involve excavation or other potential disturbances within or near the disposal area, inform the contractor and provide a copy of the work plan developed in consultation with NHDES to address public health and regulatory concerns. (See BMP 1.0).
- (6.4) Record notice in the chain of title for the property, as specified by 40 CFR 61.151(e). See Section V for a sample notice.
- (6.5) Notify NHDES when for the property is transferred to a new owner, so that NHDES can properly direct future correspondence concerning the property.
- (6.6) Always seek the advice and assistance of your local health officer, NHDES, real estate agent, lawyer and other qualified professionals whenever there is any question about disclosure and right-to-know issues, and/or the ability to carry out any activity without causing a release of asbestos fibers.

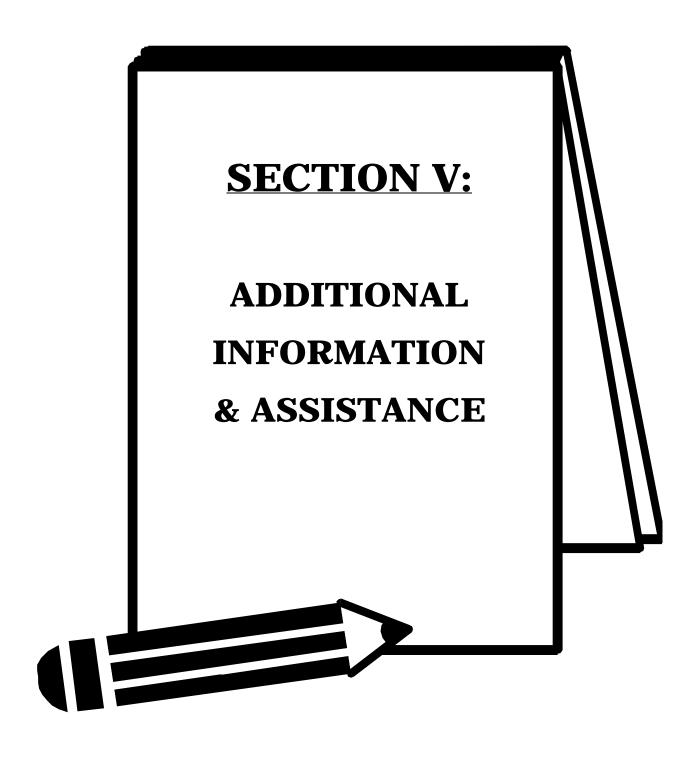


BMP 7.0: Record Keeping

It is important to keep good records, which will allow you to document and reconstruct activities that have taken place at asbestos disposal sites under your ownership or control. The following recommendations apply:

- (7.1) Maintain a written record of all site inspections that you make pursuant to BMP 2.0.
- (7.2) Maintain a written record of all repairs and maintenance activities, including the date the work was performed, a description of the work performed and related photographs or diagrams, the identity of all persons performing the work, and other such information as may be needed to fully document the activities.
- (7.3) Maintain copies of all official correspondence concerning the site, including correspondence with the local health officer, and state or federal officials. (*)
 - (*) Note: NHDES maintains files for asbestos disposal sites. The files include information compiled by NHDES during periodic site inspections. This information typically is sent to the property owner following a site visit. In addition, the files are available for public inspection, by making an appointment with NHDES. See Section V for contact information.
- (7.4) Maintain a scaled map of the site, showing the location of the asbestos disposal area and other information that will allow a third party, such as a contractor, to avoid disturbing the area when working at the site.
- (7.5) Always seek the advice and assistance of your local health officer, NHDES and other qualified professionals whenever there is a question about recordkeeping matters, and/or the ability to carry out any activity without causing a release of asbestos fibers.





DIRECTORY OF GOVERNMENT CONTACTS - Page 1 of 2				
Government Contact		Asbestos Related Program Responsibilities	Available Information & Assistance re: Asbestos Disposal Sites	
Government	N.H. Dept. of Environmental Services (NHDES) Waste Management Division P.O. Box 95 6 Hazen Drive Concord New Hampshire 03302-0095 PH: (603) 271-2925; FAX: (603) 271-2456 www.des.state.nh.us	 Disposal site management, including inspection and remediation Technical assistance to municipalities and property owners Liaison to related US-EPA programs 	 Additional copies of this document & related updates, if any List of and records pertaining to asbestos disposal sites Technical assistance for and oversight of site remediation activities Copies of rules and regulations 	
State Go	N.H. Dept. of Health & Human Services (NHDHHS) Office of Community and Public Health 6 Hazen Drive Concord, New Hampshire 03301 PH: (603) 271-4609; FAX: (603) 271-2667 www.dhhs.state.nh.us	 Health risk assessment Licensing of asbestos abatement contractors Certification of asbestos abatement workers Technical assistance to local health officers Occupational health & safety programs 	 Additional copies of this document & related updates, if any Licensed Asbestos Abatement Contractor List 	
Federal Government	U.S. Environmental Protection Agency (US-EPA) New England, Region 1 1 Congress Street, Suite 1100 Boston, Massachusetts 02114-2023 CUSTOMER CALL CTR.: (617) 918-1111 TOLL FREE IN N.E.: (888) 372-7341 www.epa.gov	 National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 61 Site inspection Site remediation 	 Copies of federal environmental regulations and related publications Technical library Technical assistance to state government Remedial assistance to state government 	
	U.S. Department of Labor Occupational Safety & Health Administration 279 Pleasant Street, Suite 201 Concord, New Hampshire 03301 PH: (603) 225-1629; FAX: (603) 225-1580 www.osha.gov	 Administers/enforces safe work place practices Job site inspections Employee training 	 Copies of federal labor regulations and related publications Consultation service for employers to improve their occupational safety and health management systems. Service delivered via state government. 	

DIRECTORY OF GOVERNMENT CONTACTS - Page 2 of 2			
	Government Contact	Asbestos Related Program Responsibilities	Available Information & Assistance re: Asbestos Disposal Sites
nent	City of Nashua Health Officer Nashua Dept. of Environmental Health 18 Mulberry Street Nashua, New Hampshire 03060 PH: (603) 594-3356; FAX: (603) 594-3452 www.nashuanh.org	- Liaison to NHDES technical assistance and remedial programs	 Tax Maps/ Property Reference Drawings Limited site files Local ordinances Technical assistance concerning local permits and other requirements Initial response to unplanned encounters and new site discoveries
Local Governn	Town of Hudson Health Officer Hudson Town Offices 12 School Street Hudson, New Hampshire 03051 PH: (603) 886-6005; FAX: (603) 594-1142 www.ci.hudson.nh.us	- Liaison to NHDES technical assistance and remedial programs	 Tax Maps/ Property Reference Drawings Limited site files Local ordinances Technical assistance concerning local permits and other requirements Initial response to unplanned encounters and new site discoveries
	Town of Tilton Health Officer Tilton Town Offices 257 Main Street Tilton, New Hampshire 03276 PH: (603) 286-4521; Fax: (603) 286-3519	- Liaison to NHDES technical assistance and remedial programs	 Tax Maps/ Property Reference Drawings Limited site files Local ordinances Technical assistance concerning local permits and other requirements Initial response to unplanned encounters and new site discoveries
	Town of Meredith Health Officer Meredith Town Offices 41 Main Street Meredith, New Hampshire 03253 PH: (603) 279-4538; FAX: (603) 279-1042	- Liaison to NHDES technical assistance and remedial programs	 Tax Maps/ Property Reference Drawings Limited site files Local ordinances Technical assistance concerning local permits and other requirements Initial response to unplanned encounters and new site discoveries



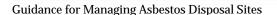
This is a courtesy copy of 40 CFR 61.151, a federal regulation applicable to inactive asbestos waste disposal sites. This copy was compiled on 6-22-99 by the New Hampshire Department of Environmental Services (NHDES) from the US Government Printing Office's website at http://www.access.gpo.gov/nara/cfr. Amendments, if any, effective after 6-22-99 are not part of this text. NHDES is not responsible for typographical or other errors. To obtain a complete copy of 40 CFR 61 (National Emission Standards for Hazardous Air Pollutants), refer to the aforementioned website or contact the Reference and Information Desk at the NH State Library (telephone 603-271-2239).

TITLE 40--PROTECTION OF ENVIRONMENT CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY PART 61--NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS Subpart M--National Emission Standard for Asbestos

Sec. 61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under Sec. 61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:

- (a) Comply with one of the following:
 - (1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or
 - (2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or
 - (3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or
 - (4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a) (1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.
- (b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section.
 - (1) Display warning signs at all entrances and at intervals of 100m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:
 - (i) Be posted in such a manner and location that a person can easily read the legend; and



- (ii) Conform to the requirements for $51~cm \times 36~cm$ ($20" \times 14"$) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
- (iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

LEGEND	NOTATION
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

- (2) Fence the perimeter of the site in a manner adequate to deter access by the general public.
- (3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.
- (c) The owner or operator may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of paragraph (a) or (b) of this section.
- (d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:
 - (1) Scheduled starting and completion dates;
 - (2) Reason for disturbing the waste;
 - (3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used; and
 - (4) Location of any temporary storage site and the final disposal site.
- (e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:
 - (1) The land has been used for the disposal of asbestos-containing waste material;
 - (2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in Sec. 61.154(f) have been filed with the Administrator; and
 - (3) The site is subject to 40 CFR part 61, subpart M.

(40 FR 13661, Apr. 5, 1984, as amended at 53 FR 36972, Sept. 23, 1988. Redesignated and amended at 55 FR 48429, Nov. 20, 1990)



SAMPLE/MODEL NOTICE FOR CHAIN OF TITLE RECORDATION

Federal regulation requires the owners of inactive disposal sites to record, at the Registry of Deeds, a notice in the chain of title for the property. The notice shall state: that asbestos-containing waste materials have been disposed on the property; that certain disposal site records, including maps, are filed with the administrator (i.e., the New Hampshire Department of Environmental Services); and that the disposal site is subject to 40 CFR part 61, subpart M, including cover and access control requirements, and limitations regarding excavation or other disturbance of the waste.

Owners who have not yet recorded such notice should do so immediately and provide a copy of the same to the New Hampshire Department of Environmental Services, at the address shown below, and all persons/entities holding interest in the property, including lessees, tenants, mortgagees, and holders of easement rights. A sample notice is provided below. For further instructions concerning the actual recordation process, contact the Registry of Deeds for the county in which the property is located. For properties in Nashua and Hudson, New Hampshire, the Registry of Deeds is located at 19 Temple Street, Nashua, NH, 03060; Telephone: 603-882-6933. For properties in Tilton and Meredith, New Hampshire, the Registry of Deeds is located at 24 Court Street, Laconia, NH 03246; Telephone: 603-524-0618.



\sim NOTICE \sim

Pursuant to the requirements of 40 CFR 61.151(e), notice is hereby provided that asbestos-containing waste materials have been disposed on the property identified below:		
CURRENT PROPERTY	<u>OWNER</u>	
Name:Mailing Address:		
LOCATION OF PROP		
Street Address:		
Town:		
County: Sta	te:	
County:StaLocal Tax Map & Lot #:Deed refere	nce, by book & page:	
Records pertaining to the disposal site, including site maps and a description of cover materials, are on file and available for public inspection at: New Hampshire Department of Environmental Services Waste Management Division 6 Hazen Drive, P.O. Box 95 Concord, New Hampshire 03302-0095		
The disposal site is subject to 40 CFR part 61, subpart M, including cover and access control requirements and limitations regarding the excavation or other disturbance of the waste, as specified in 40 CFR 61.151. For additional information, including information concerning compliance with 40 CFR part 61, subpart M, and best management practices for the disposal area, contact the New Hampshire Department of Environmental Services as cited above.		
Witness the execution hereof under seal this	day of, 19	
Property Owner Signature:		
Notary Public Signature:	My commission expires on:	



APPENDIX C

NH ADMISTRATIVE RULES ENV-WM 3900 AND HE-P 5000



NH ADMINISTRATIVE RULES for MANAGEMENT AND CONTROL OF ASBESTOS DISPOSAL SITES NOT OPERATED AFTER JULY 10, 1981

TABLE OF CONTENTS

CHAPTER ENV-WM 3900 MANAGEMENT AND CONTROL OF ASBESTOS DISPOSAL SITES NOT OPERATED AFTER JULY 9, 1981		
PART ENV-Wm 3901 PURPOSE AND SCOPE	1	
Env-Wm 3901.01 Purpose		
Env-Wm 3901.01 Turpose Env-Wm 3901.02 Applicability		
PART ENV-Wm 3902 DEFINITIONS.		
Env-Wm 3902.01 Asbestos		
Env-Wm 3902.02 Asbestos waste		
Env-Wm 3902.03 Asbestos disposal site		
Env-Wm 3902.04 Cover material		
Env-Wm 3902.05 Department		
Env-Wm 3902.06 Emergency project		
Env-Wm 3902.07 Licensed contractor Env-Wm 3902.08 Major project		
Env-Wm 3902.06 Major projectEnv-Wm 3902.09 Minor project		
Env-Wm 3902.10 Owner		
Env-Wm 3902.10 Owner Env-Wm 3902.11 Qualified person		
Env-Wm 3902.11 Quantilea person Env-Wm 3902.12 USEPA		
Env-Wm 3902.13 Utility project Env-Wm 3902.14 Visible emission		
PARTENV-WM 3903 WAIVER		
Env-Wm 3903.01 Applicability Env-Wm 3903.02 Waiver Applications		
Env-Wm 3903.03 Review and DecisionPART ENV-Wm 3904 GENERAL REQUIREMENTS		
Env-Wm 3904.01 Applicability		
Env-Wm 3904.02 Release Prohibited		
Env-Wm 3904.03 Cover Requirements Env-Wm 3904.04 Activity and Use Restrictions		
Env-wm 3904.04 Activity and Use Restrictions. Env-Wm 3904.05 Access Control		
Env-Wm 3904.05 Access Control Env-Wm 3904.06 Site Monitoring and Reporting		
Env-Wm 3904.00 Site Monitoring and Reporting Env-Wm 3904.07 Site Maintenance		
Env-Wm 3904.07 Site Maintenance Env-Wm 3904.08 Disclosure and Record Keeping		
PART ENV-WM 3905 WORK PRACTICES AND ENGINEERING CONTROLS		
Env-Wm 3905.01 Purpose		
Env-Wm 3905.02 Applicability		
Env-Wm 3905.02 Applicability Env-Wm 3905.03 Qualified Persons Required		
Env-Wm 3905.03 Qualified Fersons Required Env-Wm 3905.04 Types of Projects		
Env-Wm 3905.05 General Requirements.		
Env-Wm 3905.06 Factors to Consider.		
Env-Wm 3905.07 Project Notice Requirements.		
Env-Wm 3905.08 Site Preparation.		
Env-Wm 3905.09 Site Work Zones.		
Env-Wm 3905.10 Access Control and Site Security		
Env-Wm 3905.11 Excavation or Other Disturbance.		
Env-Wm 3905.12 Personal Protective Equipment		
Env-Wm 3905.13 Air Monitoring		
Env-Wm 3905.14 Decontamination of Personnel and Equipment		
Env-Wm 3905.15 Clearance Determination		
Env-Wm 3905.16 Project Recordkeeping and Reporting		
Env-Wm 3905.17 Additional Reporting Requirements for Major Projects		
PART ENV-WM 3906 WORK PLANS FOR MAJOR NON-EMERGENCY PROJECTS		
Env-Wm 3906.01 Applicability		

TABLE OF CONTENTS

APPENDIX II	II-1
APPENDIX I	I-2
APPENDIX I	I-1
Env-Wm 3907.02 Good Cause	23
Env-Wm 3907.01 Procedure	
PART ENV-WM 3907 SUSPENSION AND REVOCATION	
Env-Wm 3906.06 Work Plan Review	
Env-Wm 3906.05 Generic Work Plans.	2
Env-Wm 3906.04 Project Specific Work Plans	20
Env-Wm 3906.03 Types of Work Plans	19
Env-Wm 3906.02 General Requirements	19

CHAPTER Env-Wm 3900 MANAGEMENT AND CONTROL OF ASBESTOS DISPOSAL SITES NOT OPERATED AFTER JULY 9, 1981

Statutory Authority: RSA 141-E:4,II

REVISION NOTE:

Document #7647, effective 2-16-02, contains rules governing asbestos disposal sites where dumping activities ceased by July 10, 1981 pursuant to RSA 141-E:2, III. Rules governing such sites were formerly contained within Env-Wm 2601 as filed under Document #5172, effective 7-1-91, and Document #6535 (interim rule), effective 7-1-97.

The former rules within Env-Wm 2601 that governed such asbestos disposal sites expired as interim rules on 10-29-97. Env-Wm 2601 as filed under Document #6619-B, effective 10-29-97, does not apply to sites where disposal ceased by July 10, 1981.

PART Env-Wm 3901 PURPOSE AND SCOPE

Env-Wm 3901.01 Purpose.

- (a) The purpose of the rules in this chapter is to protect public health, safety, and the environment by establishing requirements for managing asbestos disposal sites not regulated under the state solid waste management act, RSA 149-M, and rules adopted pursuant thereto, namely sites where asbestos exists on or in the ground due to dumping activities that ceased prior to July 10, 1981, including but not limited to the many sites in Nashua and Hudson filled with asbestos manufacturing waste from the Johns-Manville Corporation.
- (b) It is intended that the rules in this chapter be used in conjunction with other federal, state, and local requirements for managing and controlling asbestos, including but not limited to:
 - (1) New Hampshire administrative rules in He-P 5000 pertaining to licensing contractors and certifying individuals who disturb asbestos at asbestos disposal sites, as adopted by the department of health and human services pursuant to RSA 141-E;
 - (2) New Hampshire administrative rules in Env-Wm 2601 pertaining to the collection, storage and off-site transfer, processing, treatment, and disposal of asbestos waste, as adopted by the department pursuant to RSA 149-M;
 - (3) Federal regulations pertaining to occupational safety and health, including regulations established and implemented by:
 - a. The Occupational Safety and Health Administration in 29 CFR 1910 and 29 CFR 1926; and
 - b. The U.S. Environmental Protection Agency in 40 CFR 763;
 - (4) Federal regulations pertaining to transportation of asbestos, including regulations established by the U.S. Department of Transportation in 49 CFR 107 and 49 CFR 171-172; and
 - (5) Federal regulations pertaining to management of inactive disposal sites for asbestos, including regulations established by the U.S. Environmental Protection Agency in 40 CFR 61 or

1

the substitute provisions, if any, approved by the U.S. Environmental Protection Agency under 40 CFR 63.93 and identified in 40 CFR 63.99.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3901.02 Applicability.

- (a) The rules in this chapter shall apply to asbestos disposal sites, as defined by RSA 141-E:2,III and Env-Wm 3902.03.
- (b) The asbestos disposal sites identified in (a) above shall include but are not limited to the many sites in Nashua and Hudson filled with asbestos manufacturing waste from the Johns-Manville Corporation.
- (c) The rules in this chapter shall not apply to asbestos abatement activities, as defined in RSA 141-E:2,II, that are subject to the NH administrative rules for asbestos management and control, Env-Wm 1800, including but not limited to the removal, repair, or encapsulation of asbestos containing materials during demolition or renovation of buildings.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

PART Env-Wm 3902 DEFINITIONS

Env-Wm 3902.01 "Asbestos" means "asbestos" as defined by RSA 141-E:2,I, namely "amosite, chrysotile, crocidolite, or asbestiform tremolite, actinolite, or anthophyllite." As used in this chapter, the term includes asbestos contained in any material, product, or by-product.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.02 "Asbestos waste" means any asbestos or asbestos-containing material, product, or by-product that is discarded or abandoned.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.03 "Asbestos disposal site" means "asbestos disposal site" as defined by RSA 141-E:2,III, namely "land where asbestos waste exists, either in or on the ground, due to dumping activities which ceased by July 10, 1981. The term includes inactive disposal sites as defined by 40 CFR 61.141. The term does not include any disposal site which is subject to the permitting requirements of RSA 149-M."

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.04 "Cover material" means non-asbestos-containing material overlying asbestos at an asbestos disposal site, including but not limited to clean soil, rock, and other earthen materials, geotextiles and other types of geosynthetics, concrete, bituminous concrete, and vegetation.

2

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.05 "Department" means the New Hampshire department of environmental services.

Source. #7647, eff 2-16-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.06 "Emergency project" means an unforeseen major or minor project that is the result of a sudden or unexpected event and must proceed expeditiously in order to protect public health, safety, or the environment. The term does not include work that is extraneous to abating the immediate threat to public health, safety, or the environment.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.07 "Licensed contractor" means:

- (a) The entity or individual undertaking a minor or major project and holding a valid license issued pursuant to He-P 5011; or
- (b) If the project is license exempt pursuant to He-P 5011, the qualified person who is in charge of the project.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.08 "Major project" means any activity at an asbestos disposal site that involves the excavation, removal, exposure, or other disturbance of more than 160 square feet, which is approximately 15 square meters, or 35 cubic feet, which is approximately one cubic meter, of asbestos or any material mixed with or containing asbestos, where the total disturbance involved in a project is measured cumulatively.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.09 "Minor project" means any activity at an asbestos disposal site that involves the excavation, removal, exposure, or other disturbance of asbestos, or any material mixed with or containing asbestos that is not a major project. The term does not include a major project divided into smaller segments.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.10 "Owner" means the owner of record of a parcel of land where there is an asbestos disposal site.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.11 "Qualified person" means an individual who:

- (a) Is capable of identifying asbestos, asbestos waste at asbestos disposal sites, and asbestos hazards;
- (b) Is capable of selecting the appropriate control strategies for the release of asbestos fibers to the environment and human asbestos exposure;

3

- (c) Has read and understands the information provided in the document titled "Guidance for Managing Asbestos Disposal Sites", published by the department in May, 2000;
- (d) Has all credentials and holds all licenses, certificates, registrations or other authorizations needed pursuant to federal, state, and local requirements for the performance of the work or delivery of the service that necessitates the qualifications, including but not limited to a valid certificate issued pursuant to He-P 5012, when required; and
- (e) Performs work at an asbestos disposal site under the authority of an entity or individual holding a valid license issued pursuant to He-P 5011, unless the work being performed is license exempt pursuant to He-P 5011.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.12 "USEPA" means the United States Environmental Protection Agency.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.13 "Utility project" means a minor or major project by a utility company or public authority to install, repair, replace, or decommission a private or public utility system, or portion thereof, at locations where the responsible utility company or public authority holds such rights of access, and includes the installation, repair, replacement, and decommissioning of the following:

- (a) Sanitary sewerage, water, or drainage systems, and related appurtenances;
- (b) Steam lines and related appurtenances;
- (c) Natural gas pipelines and related appurtenances; and
- (d) Above-ground or underground electric, telephone, telecommunication cables or other conduits, and related appurtenances.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3902.14 "Visible emission" means any emission that is visually detectable without the aid of instruments, coming from asbestos waste. The term does not include condensed, uncombined water vapor.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

PART Env-Wm 3903 WAIVER

Env-Wm 3903.01 Applicability.

(a) Except as specified by (b) and (c) below, the rules in this part shall apply to any person seeking a waiver to a requirement in this chapter.

- (b) The rules in this part shall not apply to obtaining a waiver to any rule in this chapter that incorporates a statutory requirement, including but not limited to:
 - (1) Env-Wm 3904.02 and Env-Wm 3905.05(a), prohibiting the release of asbestos fibers to the environment; and
 - (2) Env-Wm 3904.08(a), specifying disclosure requirements.
- (c) The rules in this part shall not apply to obtaining a waiver when both (1) and (2) below are true, unless the applicant first obtains approval from the USEPA for the same waiver and provides a copy of the approval as specified in Env-Wm 3903.02(b)(10):
 - (1) The request is to waive a rule that the USEPA has approved pursuant to 40 CFR 63.93 and identified in 40 CFR 63.99 as a substitute for a rule promulgated under section 112 of the federal Clean Air Act; and
 - (2) The waiver is intended to apply to an asbestos disposal site that was operated by sources covered under 40 CFR 61.142, 40 CFR 61.144, and 40 CFR 61.147, including but not limited to the sites in Nashua and Hudson formerly operated by the Johns-Manville Corporation.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3903.02 Waiver Applications.

- (a) Any person seeking a waiver to a requirement in this chapter shall submit an application for waiver to the department, in writing, as specified in (b) below, and concurrently provide a copy of the application to the local health officer.
 - (b) Each application for waiver shall include the following information:
 - (1) The name, mailing address, and telephone number of the applicant;
 - (2) Identification of the specific rule(s) the applicant is seeking to have waived;
 - (3) Identification of the asbestos disposal site(s) to which the waiver is intended to apply, if granted, or a statement that the requested waiver is intended to apply without regard to a specific site;
 - (4) Description of the specific project(s) to which the waiver is intended to apply, if granted, or a statement that the requested waiver is intended to apply without regard to a specific project:
 - (5) The period of time during which the applicant wishes the waiver to be effective;

5

- (6) If the waiver is intended to apply to a specific asbestos disposal site, a statement indicating whether the applicant wants the waiver, if granted, to include provisions for automatic transfer to subsequent owners;
- (7) A full explanation of why the waiver is necessary, including an explanation of the hardship that would be caused by having to comply with the rule;

- (8) A full explanation, with supporting data, of the alternative(s), if any, that the applicant proposes to use in lieu of complying with the rule;
- (9) A full explanation of how each of the alternatives proposed pursuant to (8), above, is consistent with the purpose and intent of RSA 141-E and the rules in this chapter, and is otherwise adequate to protect public health, safety and the environment; and
- (10) If the applicant is seeking a waiver of any rule needing USEPA approval, as described in Env-Wm 3903.01(c), a copy of the approval issued by the USEPA.
- (c) Each application for waiver shall be dated and signed by the applicant under penalties of RSA 641:3.
- (d) If the application for waiver is site specific and the applicant is not the owner, the application shall also include a statement dated and signed by the owner under penalties of RSA 641:3, certifying that the owner is aware that the application is being made and agrees to the information contained therein.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3903.03 Review and Decision.

- (a) Applications for waiver shall be reviewed by the department in accordance with RSA 541-A:29.
- (b) The department shall grant the requested waiver if:
 - (1) The proposed alternative:
 - a. Is in keeping with the purpose and intent of RSA 141-E and the rules in this chapter;
 - b. Will protect the public health, safety, and environment to the same or greater extent than the rule being waived;
 - c. Does not violate RSA 141-E or any other state or federal requirement for management and control of asbestos, including but not limited to the requirements identified in Env-Wm 3901.01(b); and
 - d. Is enforceable; and
 - (2) At least one of the following conditions is satisfied:
 - a. Strict compliance with the rule will result in an adverse effect on the public health, safety, or the environment; or
 - b. Strict compliance with the rule will provide no benefit to the public and will cause a hardship to the applicant.
- (c) The department shall notify the following parties in writing of the decision to either grant or deny the requested waiver:
 - (1) The applicant;

- (2) The owner, if different than the applicant and the waiver is site specific;
- (3) The local health officer; and
- (4) The USEPA, if the waiver is for a rule that cannot be waived without having first obtained USEPA approval, as specified in Env-Wm 3903.01(c).
- (d) A notice of denial shall state clearly the reasons for denial.
- (e) Waivers, when issued, shall include:
 - (1) The name of the person to whom the waiver is issued;
 - (2) Identification of the rule being waived;
 - (3) The terms and conditions under which the waiver is granted;
 - (4) The effective date and expiration date; and
 - (5) The signature of the department's commissioner or his/her designee.
- (f) In no case shall the waiver of any requirement in this chapter be construed to mean:
 - (1) An authorization of any activity that occurred prior to the effective date of the waiver;
 - (2) An authorization of any activity that does not comply with the requirements of this chapter or RSA 141-E;
 - (3) Elimination of any obligation to comply with all other applicable federal, state, and local requirements for asbestos management and control, including, but not limited to the requirements identified in Env-Wm 3901.01(b):
 - (4) Elimination of any obligation to obtain all requisite local, state, and federal permits or approvals; or
 - (5) A waiver of any cause of action for violations predating the waiver.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

PART Env-Wm 3904 GENERAL REQUIREMENTS

Env-Wm 3904.01 Applicability. The rules in this part shall apply to managing and controlling asbestos disposal sites.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3904.02 Release Prohibited.

- (a) As required by RSA 141-E:21, "no person shall cause or allow asbestos fibers to be released to the environment from an asbestos disposal site."
 - (b) A release to the environment, as specified in (a) above, shall include but not be limited to:
 - (1) A visible emission;
 - (2) An uncontained airborne concentration of asbestos fibers that exceeds the ambient concentration;
 - (3) An off-site discharge of storm water, surface water, or waste water that has been in contact with asbestos, unless the water is filtered and discharged in accordance with Env-Wm 3905.14(c);
 - (4) The off-site removal of asbestos, unless the asbestos is collected, stored, transferred, and disposed in accordance with Env-Wm 2601; and
 - (5) The off-site removal of individuals, equipment, supplies, clothing, or any other materials or items that have been in contact with asbestos, unless first decontaminated in accordance with Env-Wm 3905.14 or collected, stored, transferred, and disposed in accordance with Env-Wm 2601.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3904.03 Cover Requirements.

- (a) All asbestos at an asbestos disposal site shall be buried under a capping system that is designed using sound engineering practices and meets the criteria specified in (b) through (e) below.
- (b) The capping system shall prevent the asbestos from becoming exposed under the following site-specific conditions and events:
 - (1) The 100-year, 24-hour storm;
 - (2) The 100-year flood;
 - (3) Seasonal frost action;
 - (4) Erosion due to wind, water, and other factors; and
 - (5) Site land use and activities.
 - (c) The capping system shall be comprised of cover materials placed in layers, as follows:

8

- (1) Surface cover materials shall be of such type as will eliminate or control erosion, including but not limited to one or more of the following:
 - a. Riprap, densely packed;
 - b. Bituminous concrete, free of cracks or openings;

- c. Portland cement concrete, free of cracks or openings; and
- d. Vegetation that, if up-rooted, will not expose the asbestos layer;
- (2) The cover material immediately below the surface cover materials shall be of sufficient character and thickness to support and enhance the long-term effectiveness of the surface cover materials; and
- (3) Earthen cover material immediately in contact with the asbestos deposit shall be a free draining sandy gravel material.
- (d) The total depth of the cover materials shall be 6 inches or more as required to satisfy the performance standard provided in (b) above.
 - (e) Geotextiles shall be incorporated in the capping system when necessary to:
 - (1) Inhibit asbestos from becoming exposed to the ground surface as a result of frost action;
 - (2) Prevent different layers of cover materials from inter-mixing; or
 - (3) Create a barrier to warn against digging into the underlying asbestos.
 - (f) Typical capping system specifications are provided in appendix I for residential sites that:
 - (1) Are located in Nashua or Hudson, New Hampshire, or another area of the state having the same average depth of ground frost;
 - (2) Have a level or gently sloping ground surface;
 - (3) Do not border on any surface water; and
 - (4) Are not situated within the 100-year flood hazard zone.
- (g) Nothing stated in (a) through (f) above shall be construed to mean there is no obligation to also comply with other local, state, and federal building codes, construction standards, and other requirements that apply to establishing the capping system and undertaking the type of land uses and activities the capping system is designed to support pursuant to (b)(5) above.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3904.04 Activity and Use Restrictions.

- (a) No person shall excavate, remove, expose or otherwise disturb any asbestos at an asbestos disposal site, unless the work is conducted in accordance with the work practices and engineering controls in Env-Wm 3905.
- (b) No person shall alter the capping system or the type of cover materials at an asbestos disposal site in a manner that causes the capping system to be less effective in meeting the performance criteria specified in Env-Wm 3904.03(b).

(c) Owners shall restrict the use of a site to only those uses and activities that the capping system is designed to sustain without loss of integrity, as required by Env-Wm 3904.03(b)(5).

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3904.05 Access Control. The owner shall control access to the site as necessary to comply with Env-Wm 3904.04.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3904.06 Site Monitoring and Reporting.

- (a) The owner shall monitor the asbestos disposal site to assure that all asbestos waste remains covered in accordance with the requirements of this chapter.
- (b) The owner shall promptly report to the local health officer and the department any situation involving either uncovered asbestos waste or a release to the environment as identified in Env-Wm 3904.02(b) or both.
- (c) The owner shall promptly report to the local health officer and the department any conditions developing at the site that have the potential to result in either uncovered asbestos waste or a release to the environment as identified in Env-Wm 3904.02(b) or both.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3904.07 <u>Site Maintenance</u>. Owners shall provide site maintenance as needed to keep the site covered in compliance with Env-Wm 3904.03 and to otherwise prevent a release to the environment as identified in Env-Wm 3904.02(b).

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3904.08 Disclosure and Record Keeping.

- (a) Owners shall comply with the disclosure requirements specified in RSA 141-E:23, including requirements for:
 - (1) Recording notice in the chain of title for the property;
 - (2) Providing notice to tenants, contractors, and other site users;
 - (3) Providing notice to potential buyers; and
 - (4) Providing notice to the department following a transfer of title.
- (b) Owners shall register sites in accordance with Env-Wm 309 and provide to the department, in writing, other information needed to maintain the registry of sites required by RSA 141-E:3,II(j).

- (c) Owners shall keep records or have access to records required to comply with the seller to buyer disclosure requirements in RSA 141-E:23,I(d), including:
 - (1) A site plan showing the asbestos disposal area and the cover materials;
 - (2) Site monitoring and maintenance records pursuant to Env-Wm 3904.06 and Env-Wm 3904.07;
 - (3) Site inspection reports pursuant to RSA 141-E:24; and
 - (4) Project summary information for all major and minor projects undertaken at the site, including, as applicable:
 - a. A copy of project commencement notices pursuant to Env-Wm 3905.07;
 - b. Weekly project reports pursuant to Env-Wm 3905.17(a); and
 - c. Project completion reports pursuant to Env-Wm 3905.17.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

PART Env-Wm 3905 WORK PRACTICES AND ENGINEERING CONTROLS

Env-Wm 3905.01 <u>Purpose</u>. The purpose of the rules in this part is to establish work practices and engineering controls for excavating, removing, exposing, or otherwise disturbing asbestos at an asbestos disposal site in a manner that is protective of public health, safety and the environment.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.02 <u>Applicability</u>. The requirements in this part shall apply to all minor and major projects.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.03 <u>Qualified Persons Required</u>. No person shall excavate, remove, expose, or otherwise disturb asbestos at an asbestos disposal site unless the person is a qualified person pursuant to Env-Wm 3902.11.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.04 Types of Projects.

- (a) For the purposes of the rules in this chapter, work involving the disturbance of asbestos at asbestos disposal sites shall be classified as either a:
 - (1) Major project, as defined by Env-Wm 3902.08; or

- (2) Minor project, as defined by Env-Wm 3902.09.
- (b) For the purposes of the rules in this chapter, major and minor projects shall be further classified as either:
 - (1) Emergency projects, as defined by Env-Wm 3902.06; or
 - (2) Non-emergency projects.
 - (c) Any of the project types specified in (a) and (b) above shall also be further classified as either:
 - (1) Utility projects, as defined by Env-Wm 3902.13; or
 - (2) Non-utility projects.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.05 General Requirements.

- (a) The excavation, removal, exposure, or other disturbance of asbestos at an asbestos disposal site shall be conducted in a manner that:
 - (1) Is protective of public health, safety, and the environment; and
 - (2) Does not cause a release of asbestos fibers to the environment, including any release identified in Env-Wm 3904.02.
- (b) The excavation, removal, exposure, or other disturbance of asbestos at an asbestos disposal site shall be carried out in conformance with other federal, state, and local requirements pertaining to the management and control of asbestos, including but not limited to the requirements listed in Env-Wm 3901.01(b), as applicable.
- (c) Major non-emergency projects shall proceed in accordance with the provisions of a work plan approved pursuant to Env-Wm 3906, unless exempt pursuant to Env-Wm 3906.02(d).
- (d) At project sites that are subject to the work plan requirement cited in (c) above, the qualified person in charge of the work shall maintain a copy of the work plan at the work site, for reference by workers and for inspection by the department, the department of health and human services, and the local health officer.
- (e) During any minor or major project, the licensed contractor shall comply with the requirements of He-P 5011.08 and this part.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.06 <u>Factors to Consider</u>. The following site-specific factors shall be considered when determining the appropriate engineering controls, work practices, and equipment needed to comply with the rules in this part:

(a) Pathways by which asbestos fibers could be released from the site to the environment, including but not limited to releases to air and surface water, and releases off-site by contaminated persons or equipment leaving the site;
(b) Number and proximity of human receptors;
(c) Prevailing wind direction;
(d) Weather and seasonal conditions, including but not limited to frozen ground and flooding;
(e) Project duration;
(f) Quantity and area of asbestos being disturbed;
(g) Nature of the asbestos being disturbed, including:
(1) Whether it is friable or non-friable; and
(2) If non-friable, whether it has the potential to become friable when disturbed;
(h) Vertical and lateral limits of the asbestos disposal site;
(i) Depth and type of cover materials;
(j) Existing site features, including but not limited to:
(1) Surface topography;
(2) Property lines, rights-of-way, and easements;
(3) Surface waters and wetlands;
(4) Roadways, driveways and parking areas;
(5) Buildings and other structures;
(6) Above-ground and below-ground utilities; and
(7) Above-ground and below-ground storage tanks;
(k) Slope stability;
(l) Load bearing capacity of the site;
(m) Visibility and illumination;
(n) Site accessibility;
(o) Site history information; and

(p) Site assessment and characterization information, and degree of confidence that the information is both complete and accurate.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.07 Project Notice Requirements.

- (a) Except as provided by (d) below, the licensed contractor shall notify the following parties about the commencement of work:
 - (1) The local health officer;
 - (2) The asbestos program coordinator for the department of health and human services; and
 - (3) For major projects only, the department.
 - (b) Notice pursuant to this section shall be provided according to the following schedule:
 - (1) If the project is an emergency project, verbal notice shall be provided as soon as practicable under the circumstances and written confirmation shall be provided within 48 hours of commencing the project;
 - (2) If the project is a minor non-emergency project, notice shall be provided as soon as practicable after the person doing the work knows or should have known the work involves asbestos and, if such notice is given verbally, written confirmation shall be provided within 48 hours following project commencement.
 - (3) If the project is a major non-emergency project, notice shall be provided as specified in the work plan approved pursuant to Env-Wm 3906.
 - (c) Notice provided pursuant to this section shall include the following information:
 - (1) Project location;
 - (2) Name, mailing address, and telephone number of the entity or individual responsible for initiating and undertaking the project;
 - (3) Name, mailing address, telephone number, and current He-P 5011 license number of the licensed contractor who will be implementing the plan or, if the work does not require a licensed contractor because it will be performed by the owner at his/her single-family owner occupied property in accordance with the license exemption provisions in He-P 5012.03(b), a statement to that effect;
 - (4) Name, mailing address, telephone number and the current He-P 5012 certificate number of the qualified person who will be in charge of the work;
 - (5) Project schedule, including the starting and completion dates;
 - (6) Reason for disturbing the asbestos and a general description of the project; and

- (7) If the project is subject to the work plan requirements in Env-Wm 3906, the date the work plan was approved by the department.
- (d) Notwithstanding the above requirements, no notice shall be required for projects identified in He-P 5012.03 that can be performed by qualified persons not certified under He-P 5012.
 - (e) Notice transmitted via e-mail or fax shall constitute a form of written notice.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.08 <u>Site Preparation</u>. Prior to commencing a minor or major project, the licensed contractor shall prepare the site so that the work can be executed in accordance with the work plan, if applicable, and all other requirements of this chapter.

Source. #7647, eff 2-16-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.09 Site Work Zones.

- (a) To reduce the potential for asbestos fibers to be released to the environment by persons and equipment leaving a major or minor project site, site work zones shall be established and delineated to:
 - (1) Separate clean operations from contaminated operations; and
 - (2) Control the flow of personnel and equipment between such operations.
- (b) The site work zones required to comply with (a) above shall be established and maintained in accordance with the provisions for site control provided in Section 9 of the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH publication No. 85-115.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.10 Access Control and Site Security.

- (a) During a major or minor project, access control and site security shall be provided as necessary to:
 - (1) Prevent unauthorized persons and unprotected persons from being exposed to site hazards;
 - (2) Reduce the potential for vandalism or unlawful dumping of other wastes at the project site;
 - (3) Reduce the potential for neighborhood pets and other animals to enter the project site and traverse contaminated areas; and
 - (4) Avoid interference with safe working procedures.
- (b) Access control and site security shall include displaying a warning sign in such manner and location that a person can easily read the legend, including the following information:
 - (1) Asbestos work in progress; and

- (2) Authorized persons only.
- (c) Site security and access control pursuant to (a) and (b) above shall be provided during both working and non-working hours.

<u>Source.</u> #7647, eff 2-16-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.11 Excavation or Other Disturbance.

- (a) The area of excavation, removal, exposure, or other disturbance of asbestos waste at an asbestos disposal site shall be confined to the smallest area practicable.
- (b) Wet methods, or wetting agents, shall be used to prevent the airborne release of asbestos fibers during a major or minor project.
 - (c) All asbestos being removed from a site shall be managed in accordance with Env-Wm 2601.
- (d) The excavation, removal, exposure, or other disturbance of asbestos waste at an asbestos disposal site shall not result in increasing the size of the disposal area.
- (e) Upon completion of the excavation, removal, exposure, or other disturbance activity, cover materials shall be placed in conformance with Env-Wm 3904.

Env-Wm 3905.12 <u>Personal Protective Equipment</u>. No individual shall enter a contaminated work area unless the individual uses personal protective equipment in conformance with the personal protective equipment requirements for asbestos workers established by the Occupational Safety and Health Administration in 29 CFR 1910 and 29 CFR 1926.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.13 <u>Air Monitoring</u>. Air monitoring shall be provided in accordance with 29 CFR 1910, 29 CFR 1926; 40 CFR 763, and the approved work plan, as applicable.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.14 Decontamination of Personnel and Equipment.

- (a) All personnel, equipment, supplies, and materials situated within a contaminated work zone established pursuant to Env-Wm 3905.09 shall be decontaminated prior to being removed to a clean zone established pursuant to Env-Wm 3905.09.
- (b) Decontamination shall be achieved by removing all asbestos contamination from the personnel, equipment, supplies, and materials in accordance with the decontamination methods and procedures set forth in Section 10 of the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH publication No. 85-115.
 - (c) Waste water from decontamination procedures shall be either:

- (1) Discharged to the ground at the project site within a portion of the open excavation area that is already asbestos contaminated and in such a manner as not to become surface run-off; or
- (2) Discharged off-site in accordance with applicable local, state, and federal waste water discharge requirements, after being filtered through progressively smaller filters ending with a filter with openings no larger than 5 microns.
- (d) Filters used pursuant to (c) above shall be handled and disposed as asbestos waste in accordance with Env-Wm 2601.
- (e) Care shall be taken during the decontamination process to avoid cross contamination of equipment, personnel, or materials.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.15 Clearance Determination.

- (a) Following completion of any major or minor project, and before allowing normal use of the site to resume, the licensed contractor shall make a site clearance determination in accordance with (b) below.
- (b) A site clearance determination shall not be made unless the licensed contractor determines that all of the following statements are true:
 - (1) All excavated, removed, exposed, or other disturbed asbestos either:
 - a. Has been removed from the site in accordance with Env-Wm 2601; or
 - b. Is covered in accordance with Env-Wm 3904.03;
 - (2) No asbestos-contaminated equipment, materials, clothing, or other supplies remain at the site; and
 - (3) It is safe to resume use of the site in a manner consistent with Env-Wm 3904.04.
- (c) The licensed contractor shall give the owner a written copy of the clearance determination, signed under the penalties of RSA 641:3.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.16 Project Recordkeeping and Reporting.

- (a) Activities involving the excavation or other disturbance of asbestos at an asbestos disposal site shall be documented and records thereof shall be maintained by the owner as specified in Env-Wm 3904.08(c).
- (b) Waste shipment records shall be maintained in accordance with 40 CFR 61 and 49 CFR 171 172, as applicable.

- (c) Within 60 days after completion of a project that changes either the lateral limits of the disposal area, the depth of the disposal area, or the type or thickness of cover materials, the licensed contractor shall submit to the department as-built drawings that:
 - (1) Show the new configuration of the disposal area, including its boundaries and cover materials; and
 - (2) Bear the stamp of a professional engineer licensed in New Hampshire, when required pursuant to RSA 310-A:18, with certification either that the altered capping system complies with Env-Wm 3904.03 or that the capping system requirements in Env-Wm 3904.03 no longer apply to the site because all asbestos has been removed from the site.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3905.17 Additional Reporting Requirements for Major Projects.

- (a) During a major project taking longer than 2 weeks to complete, the licensed contractor shall submit the following to the department and the local health officer:
 - (1) Weekly progress reports; and
 - (2) Notice of any schedule adjustments for the balance of the project.
- (b) Within 60 days after a major project is completed, the licensed contractor shall submit a project completion report to the department and the local health officer, including:
 - (1) The name, mailing address, and telephone number of the owner and the licensed contractor;
 - (2) The location of the project site;
 - (3) The date the project commenced and the date it was completed;
 - (4) A brief narrative description of the work undertaken, including an explanation of any deviation from the applicable work plan and any unexpected events;
 - (5) For any asbestos removed from the site, a copy of the waste shipment records pursuant to 40 CFR 61 and 49 CFR 171 172, as applicable;
 - (6) A brief narrative description of site conditions following completion;
 - (7) As-built drawings of the completed work, including asbestos disposal site details;
 - (8) Air monitoring results pursuant to Env-Wm 3905.13;
 - (9) A copy of the site clearance determination pursuant to Env-Wm 3905.15;
 - (10) A statement, signed by the licensed contractor, certifying that:
 - a. The information submitted in the report is correct and complete;

- b. The required work was completed in conformance with the approved work plan, except as noted pursuant to (b)(4), above, and the requirements of this chapter; and
- c. In order to facilitate compliance with RSA 141-E:23,I(d), either:
 - 1. The owner has been provided a copy of the project completion report; or
 - 2. In the case of a utility project, the owner has been notified that a copy of the project completion report is available from the utility company or authority, by request.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

PART Env-Wm 3906 WORK PLANS FOR MAJOR NON-EMERGENCY PROJECTS

Env-Wm 3906.01 <u>Applicability</u>. The rules in this part shall establish provisions for work plans for major non-emergency projects.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3906.02 General Requirements.

- (a) Except as provided in (d) below, no person shall undertake a major non-emergency project except in accordance with a written work plan prepared and approved in accordance with this part.
 - (b) Work plans shall be:
 - (1) Prepared in writing by a qualified person who is certified pursuant to He-P 5012; and
 - (2) Stamped by a registered professional engineer in New Hampshire when required pursuant to RSA 310-A;
 - (3) Submitted to the department for approval pursuant to Env-Wm 3906.05; and
 - (4) Concurrently submitted to the local health officer.
- (c) Work plans shall provide sufficient detail to allow qualified persons to implement the plan and complete the proposed work tasks in compliance with the work practices and engineering controls specified in Env-Wm 3905, all other requirements in this chapter, and RSA 141-E without further explanation or guidance.
- (d) No work plan shall be required for a major non-emergency project if, pursuant to the provisions of He-P 5012, the work can be performed by persons not certified pursuant to He-P 5012.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3906.03 Types of Work Plans.

(a) There shall be 2 basic types of work plans, as follows:

- (1) Project specific work plans, developed for the performance of work involving a discrete project at a discrete time and place; and
- (2) Generic work plans, developed for the performance of recurrent types of work that will be undertaken at indeterminate times and places, including but not limited to utility projects.
- (b) A project specific work plan shall be used to establish the work procedures to be used by persons disturbing asbestos at a specific asbestos disposal site during a project that is planned in advance of the work actually taking place.
- (c) A generic work plan shall be used to establish the work procedures to be used by persons disturbing asbestos during projects that are routinely undertaken by the responsible party at various locations and at various times not specifically known at the time the plan is prepared.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3906.04 <u>Project Specific Work Plans</u>. A project specific work plan for major non-emergency projects shall include:

- (a) Name, mailing address, telephone number, and credentials of the qualified person who prepared the plan;
 - (b) Project location;
- (c) Name, mailing address, and telephone number of the entity or individual responsible for initiating and undertaking the project;
 - (d) Project schedule, including the anticipated starting date and completion date;
- (e) If known, the name, mailing address, telephone number, and current He-P 5011 license number of the licensed contractor who will be implementing the plan or, if the work does not require a licensed contractor because it will be performed by the owner at his/her single-family owner occupied property in accordance with the license exemption provisions in He-P 5012.03(b), a statement to that effect;
- (f) If known, the name, mailing address, telephone number, and current He-P 5012 certificate number of the qualified person who will be in charge of the work;
 - (g) A description of the work to be undertaken, including:
 - (1) The reason for undertaking the work;
 - (2) Quantity of asbestos to be disturbed;
 - (3) Type and general description of asbestos to be disturbed;
 - (4) Sequence of tasks;
 - (5) A description of the procedures and equipment to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the asbestos waste, including the methods

and procedures by which the work practices and engineering controls in Env-Wm 3905 will be met: and

- (6) The location of any temporary storage site and the final disposal site for asbestos excavated or otherwise removed from the site;
- (h) A scaled plan of the site showing the existing site features and the proposed work area; and
- (i) A scaled plan and related specifications showing the proposed conditions of the site following completion of the work, including information that demonstrates the proposed post-project conditions comply with the cover requirements in Env-Wm 3904.03;
 - (j) Provisions for providing project commencement notice pursuant to Env-Wm 3905.07;
- (k) A list and status of all other local, state, or federal permits and other approvals required to implement the plan;
- (1) A statement, signed by the qualified person who prepared the plan, certifying that the plan meets all applicable local, state, and federal requirements for management of asbestos, including but not limited to the requirements listed in Env-Wm 3901.01(b), as applicable, and the rules in this chapter;
 - (m) A signed statement by the owner, certifying acceptance of the proposed work plan; and
- (n) If the entity or individual named pursuant to (c) above is not the owner, a signed statement by that entity or individual certifying acceptance of the proposed work plan.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3906.05 Generic Work Plans. A generic work plan for major non-emergency projects shall include:

- (a) Name, mailing address, telephone number, and credentials of the qualified person who prepared the plan;
- (b) Name, mailing address, and telephone number of the entity or individual responsible for initiating and undertaking the project;
- (c) If known, the name, mailing address, telephone number, and current He-P 5011 license number of the licensed contractor who will be implementing the plan or, if the work does not require a licensed contractor because it will be performed by the owner at his/her single-family owner occupied property in accordance with the license exemption provisions in He-P 5012.03(b), a statement to that effect;
- (d) If known, the name, mailing address, telephone number, and current He-P 5012 certificate number of the qualified person who will be in charge of the work;
 - (e) A description of the work to be undertaken, including:
 - (1) The type and scope of work that the plan is designed to address;
 - (2) Sequence of tasks;

- (3) A description of the procedures and equipment to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the asbestos waste, including the methods and procedures by which the work practices and engineering controls in Env-Wm 3905 will be met; and
- (4) The location of any temporary storage site and the final disposal site for asbestos excavated or otherwise removed from the site;
- (f) A description of how the site will be left following completion of the work, including related drawings of the replacement cover materials in conformance with Env-Wm 3904.03;
 - (g) Provisions for providing project commencement notice pursuant to Env-Wm 3905.07;
- (h) If the entity or individual named pursuant to (b) above is not the owner, a statement indicating how the project records will be made available to the owner to facilitate compliance with the RSA 141-E:23,I(d).
- (i) A list and status of all other local, state, or federal permits and other approvals required to implement the plan;
- (j) A statement, signed by the qualified person who prepared the plan, certifying that the plan meets all applicable local, state, and federal requirements for management of asbestos, including but not limited to the requirements listed in Env-Wm 3901.01(b), as applicable, and these rules;
- (k) A statement, signed by the owner, or in the case of a utility project, the utility, certifying acceptance of the proposed work plan; and
- (l) If the entity or individual named pursuant to (b) above is not the owner, a signed statement by that entity or individual certifying acceptance of the proposed work plan.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3906.06 Work Plan Review.

- (a) The department shall review a proposed work plan in accordance with RSA 541-A:29.
- (b) If the department determines that the work plan does not satisfy the work practices and engineering controls in Env-Wm 3905, other requirements in this chapter, or RSA 141-E, the department shall so notify the applicant and provide an opportunity for the applicant to correct the deficiencies.
- (c) If no deficiencies are noted, the department shall approve the work plan and so notify the applicant in writing.
 - (d) The department shall provide a copy of the work plan approval to the local health officer.
 - (e) Work plan approval shall not be construed in any way as:
 - (1) An authorization of any activity that occurred prior to the effective date of the approval;

- (2) An authorization of any activity that does not comply with the requirements of this chapter or RSA 141-E:
- (3) An authorization of any activity that is not in compliance with other applicable federal, state, or local requirements, including the requirements identified in Env-Wm 3901.01(b);
- (4) A waiver of any cause of action for violations predating approval; or
- (5) Elimination of any obligation to obtain all requisite local, state, and federal permits or approvals for the proposed activities.
- (f) In no case shall a work plan approval be construed to mean there is no obligation to comply with all other applicable federal, state, and local requirements for asbestos management and control, including, but not limited to the requirements identified in Env-Wm 3901.01(b).

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

PART Env-Wm 3907 SUSPENSION AND REVOCATION

Env-Wm 3907.01 Procedure.

- (a) Revocation or suspension of any approval issued pursuant to this chapter shall proceed in accordance with RSA 541-A:30.
 - (b) The department shall revoke an approval if there is:
 - (1) Good cause pursuant to Env-Wm 3907.02; and
 - (2) There are no circumstances under which the holder of the approval can correct or eliminate the underlying problem.
 - (c) The department shall suspend an approval if there is:
 - (1) Good cause pursuant to Env-Wm 3907.02; and
 - (2) Given time to do so, the holder of the approval can correct or eliminate the underlying problem.

Source. #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Env-Wm 3907.02 <u>Good Cause</u>. The following shall constitute good cause to suspend or revoke an approval issued pursuant to this chapter:

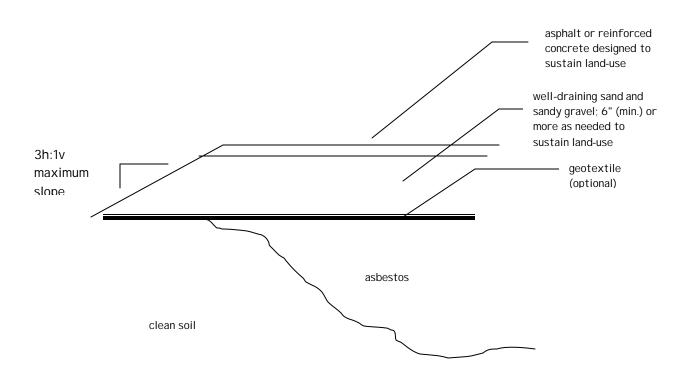
- (1) The approval was issued based on false or misleading information;
- (2) The terms and conditions of the approval are not met; or
- (3) The approved activity, once implemented, fails to meet the criteria for having issued the approval.

<u>Source.</u> #7647, eff 216-02 (See Revision Note at chapter heading for Env-Wm 3900)

Appendix I

<u>Typical Cover Specifications for Level or Gently Sloping Residential Sites Located</u>
in Nashua and Hudson

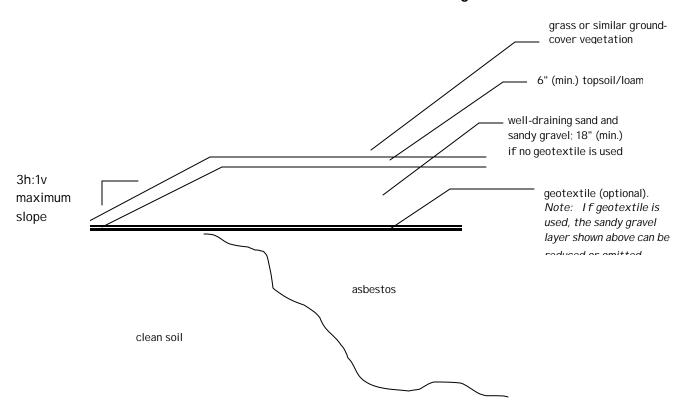
Typical Cross Section #1: Sites Treated With Asphalt or Concrete



Appendix I

<u>Typical Cover Specifications for Level or Gently Sloping Residential Sites Located</u>
in Nashua and Hudson

Typical Cross Section #2: Sites Treated With Vegetation



NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

Appendix II

Rule Amendment	Section of Statute Being Implemented
Env-Wm 3901	RSA 141-E:4, II(c); RSA 541-A:8
Env-Wm 3902	RSA 141-E:4, II(c); RSA 541-A:8
Env-Wm 3903	RSA 141-E:4, II(c); RSA 541-A:8; RSA 541-A:22, IV
Env-Wm 3904.01	RSA 141-E:4, II(c); RSA 541-A:8
Env-Wm 3904.02	RSA 141-E:4, II(b)-(c); RSA 141-E:21 & 40 CFR 61.151(a)
Env-Wm 3904.03	RSA 141-E:4, II(b)-(c); 40 CFR 61.151(a)
Env-Wm 3904.04	RSA 141-E:4, II(b)-(c); 40 CFR 61.151(d)
Env-Wm 3904.05	RSA 141-E:4, II(b)-(c); RSA 141-E:3, II(l)-(m) &
	40 CFR 61.151(b)
Env-Wm 3904.06	RSA 141-E:4, II(c); RSA 141-E:3, II(f);
	RSA 141-E:3, II(1)-(m)
Env-Wm 3904.07	RSA 141-E:4, II(c); RSA 141-E:3, II(f) & 40 CFR 61.151(a)
Env-Wm 3904.08	RSA 141-E:4, II(c); RSA 141-E:23 & 40 CFR 61.151(e)
Env-Wm 3905	RSA 141-E:4, II(b)-(c); 40 CFR 61.151(d)
Env-Wm 3906	RSA 141-E:4, II(b)-(c); 40 CFR 61.151(d)
Env-Wm 3907	RSA 141-E:4, II(c)

CHAPTER He-P 5000 ASBESTOS MANAGEMENT RULES

Statutory Authority: RSA 141-E:4, I

He-P 5001.01 Purpose.

- (a) The purpose of the rules in this chapter is to protect public health by ensuring that asbestos is handled in a manner that prevents the release of asbestos fibers to the environment and human exposure thereto.
- (b) It is intended that the rules in this chapter be used in conjunction with other federal, state, and local requirements for managing and controlling asbestos, including but not limited to:
 - (1) Administrative rules established by the department of environmental services pursuant to RSA 141-E and RSA 149-M; and
- (2) Federal regulations established by:
- a. OSHA in 29 CFR 1910 and 29 CFR 1926; and
- b. U.S. EPA in 40 CFR 61 and 40 CFR 763.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5010); ss by #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5001.02 Scope. Pursuant to RSA 141-E, the rules in this chapter shall include but are not limited to:

- (a) Training, licensure, and certification requirements and procedures applicable to persons that engage in:
 - (1) Asbestos abatement activities, as defined by RSA 141-E:2, II;
 - (2) School asbestos abatement planning activities, as defined by RSA 141-E:2, VIII; and
 - (3) Activities involving the disturbance of asbestos at asbestos disposal sites (ADS), as defined by RSA 141-E:2, III;
- (b) Safe worker practices to protect the health of asbestos abatement workers who are not subject to protection under the Occupational Safety and Health Act of 1970, 29 U.S.C. Sec. 651 et seq.; and
- (c) Provisions for inspection, compliance monitoring, and enforcement by the department.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

PART He-P 5002 DEFINITIONS

He-P 5002.01 Definitions.

- (a) "AHERA" means the Asbestos Hazard Emergency Response Act, Public Law 99-519, promulgated by congress on October 22, 1986.
- (b) "Amended water" means water to which a chemical wetting agent has been added to improve penetration.
- (c) "Approved training provider" means a training provider who offers asbestos abatement training courses that have been approved by the United States Environmental Protection Agency, a state accreditation program which itself is accredited by the U.S. EPA, or by the New Hampshire department of health and human services.
- (d) "Asbestos" means "asbestos" as defined in RSA 141-E:2, I.
- (e) "Asbestos abatement" means "asbestos abatement" as defined in RSA 141-E:2, II.
- (f) "Asbestos abatement entity" means any contractor, or other business concern as well as any governmental, religious or social organization or union having one or more than one employee or members involved in any major or minor asbestos abatement project.
- (g) "Asbestos abatement project designer" means a person who is certified pursuant to RSA 141-E:11 to conduct, plan, design, and develop procedures for asbestos abatement projects, or other substantive direction or criteria for asbestos abatement projects.
- (h) "Asbestos abatement supervisor" means any person who is certified to direct and control the asbestos abatement work of a certified asbestos abatement worker.
- (i) "Asbestos abatement worker" means any person who is certified to perform asbestos abatement work as an employee.
- (j) "Asbestos inspector" means a person who is certified pursuant to RSA 141-E:11 to identify and assess the condition of the asbestos containing material (ACM).
- (k) "Asbestos management planner" means a person who is certified pursuant to RSA 141-E:11 to assess the health hazard posed by the asbestos containing material, determine the appropriate response action, and develop a schedule for implementing response.
- (l) "Authorized representative" means employees of the department of health and human services or the department of environmental services, town health officers, or city health officers, or others as designated by the Commissioner
- (m) "Building owner" means the person in whom legal or beneficial title to the premises is vested.
- (n) "Commissioner" means the commissioner of the department of health and human services.
- (o) "Contractor" means "contractor" as defined in RSA 141-E:2, IV.
- (p) "Crumb" means a particle large enough to be readily separately visible, and itself is reducible to loose powder or loose fibers by hand pressure.
- (q) "Department" means "department" as defined in RSA 141-E:2, V.

- (r) "Emergency asbestos project" means "emergency asbestos project" as defined in Env-A 101.
- (s) "EPA AHERA regulations" means the regulations as adopted by the U.S. Environmental Protection Agency in 40 CFR Part 763 Subpart E.
- (t) "EPA approved training course" means any training course that has received EPA approval, as published in the Federal Register for the purposes of providing training to fulfill any license or certificate requirement under these rules.
- (u) "Facility" means any institutional, commercial, public, private or industrial structure, installation or building.
- (v) "Friable asbestos material" means "friable asbestos material" as defined in RSA 141-E:2, VI.
- (w) "Friable material" means any material applied on ceilings, walls, structural members, piping, duct work, or any other part of a building which, when dry, may be crumbled, pulverized or reduced to powder by hand pressure.
- (x) "HEPA filtration" means high efficiency particulate air filtration capable of filtering particles of a diameter of 0.3 microns or greater with 99.97% efficiency.
- (y) "Loose" means subject to movement by or in air, such as powder or fibers which can easily be blown or shaken from the hand.
- (z) "Major asbestos abatement project" means the abatement of more than 10 linear feet of friable asbestos material on pipes or ducts or 25 square feet of friable asbestos material on structures other than pipes and ducts.
- (aa) "Maintenance person" or "maintenance" means each worker or person who engages in a work activity including building maintenance, electrical, plumbing, carpentry, masonry, custodial, and heating services, and whose primary occupation is not asbestos abatement.
- (ab) "Manager" means any person who is responsible for the control, operation, or maintenance of a building, facility, school, or rental dwelling which is owned by another person.
- (ac) "Minor asbestos abatement project" means the abatement of the falling, dislodging, disturbance, or damage of less than or equal to 10 linear feet of friable asbestos material on pipes or ducts or 25 square feet of friable asbestos material on structures other than pipes and ducts.
- (ad) "Model accreditation plan (MAP) " means the plan as adopted by the U.S. Environmental Protection Agency in 40 CFR Part 763, Subpart E, appendix C.
- (ae) "NIOSH" means the National Institute of Occupational Safety and Health.
- (af) "OSHA" means the Occupational Safety and Health Administration.
- (ag) "Powder" means a substance composed of particles so fine as not to readily be separately seen.
- (ah) "Private dwelling" means any residence as defined in RSA 21:6-a and which is occupied by the owner.
- (ai) "Rental dwelling" means any residence as defined in RSA 21:6-a and which is occupied by person or persons other than the owner.

- (aj) "Responsible person" means each individual who has ownership of a license holder or who has managerial, supervisory, or substantial decision-making authority and responsibility for the activities of a license holder, or any combination thereof, including:
 - (1) For a corporation, all officers and directors, and either all shareholders, if a privately held corporation, or all shareholders holding 10 % or more of the corporation's debt or equity, if a publicly traded corporation, and all management and supervisory personnel;
 - (2) For a partnership, all partners, whether general or limited, and all management and supervisory personnel;
 - (3) For an association or other organization, all principals, members and participants, as applicable, and all management and supervisory personnel; and
 - (4) For a municipality or other political subdivision of the state, the individuals elected or appointed to oversee or manage the prudential affairs of the political subdivision, and the managers and supervisors of the department(s) that will perform work under the authority of the license.
- (ak) "School" means any private or public day or residential school that provides elementary, and secondary education, including day care centers.
- (al) "U.S. EPA" means the United States Environmental Protection Agency.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5010); amd by #7326, INTERIM, eff 7-28-00, EXPIRES: 1-24-01; amd by #7467, eff 3-23-01

PART He-P 5003 PROCEDURES FOR AGENCY COMPLIANCE INSPECTIONS OF BUILDINGS

He-P 5003.01 Applicability. These rules shall apply to all inspections conducted pursuant to RSA 141-E:8.

Source. #4269, eff 6-24-87; ss and moved by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5011)

He-P 5003.02 Inspection Procedures.

- (a) Upon the request of the commissioner, in accordance with RSA 141-E:8, building owners or managers shall review building records for references to asbestos materials used in construction or repairs. This information shall be provided in writing to the commissioner.
- (b) The commissioner shall examine the building for the presence of friable asbestos material. Suspect material shall be touched or rubbed to determine friability.

(c) An authorized representative shall collect three bulk samples from suspect material which is found to be friable. These samples shall be analyzed by an asbestos analysis service which meets the criteria set forth under He-P 5004.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5011)

He-P 5003.03 <u>Determination of Damage or Deterioration</u>. Friable asbestos material shall be considered deteriorated or damaged if:

- (a) The material has pulled away from the underlying surface;
- (b) Evidence of physical damage exists, such as the presence of gouges or cuts in the material or the presence of debris; or
- (c) Evidence of water damage exists.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5011)

He-P 5003.04 <u>Determination of the Potential for Significant Human Exposure</u>. Upon inspection_the department of health and human services shall find that there is a potential for significant human exposure under RSA 141-E:8 if:

- (a) There is an increase in the proximity of friable asbestos material to an air plenum or direct air stream;
- (b) There is an increase in the visibility and accessibility of friable asbestos material to building occupants and maintenance personnel; or
- (c) An increase or change in the degree of activity increases the risk the friable asbestos material will be released into the air, including air movement, vibration, installing new machinery, and moving of building occupants.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

<u>New.</u> #6557, eff 8-15-97 (formerly He-P 5011)

He-P 5003.05 <u>Air Monitoring</u>. The department shall collect air samples as part of the building inspection process. Such samples shall be analyzed in accordance with He-P 5004. The department shall provide a copy of the analytical results to the building owner, manager, or to other interested parties upon written request.

Source. #4269, eff 6-24-87; ss by

#4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5011)

He-P 5003.06 Compliance Monitoring Fees.

- (a) Whenever the commissioner collects and analyzes samples in order to evaluate compliance with RSA 141-E:7 or with RSA 141-E:8, he shall charge a fee for the collection and sample analysis. Such fees shall be assessed against the building owner, manager, or contractor.
- (b) The schedule of fees for sample analyses shall be as follows:
 - (1) Bulk samples shall be \$75 per sample analyzed by polarized light microscopy; and
 - (2) Air samples shall be \$25 per sample when analyzed by phase contrast microscopy, and \$250 per sample when analyzed by transmission electron microscopy.
- (c) The commissioner shall charge a fee of \$50 for the inspection of private dwellings. Costs for sampling and testing for asbestos shall be in addition to the \$50 fee and shall be as set forth under He-P 5003.06(b).

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5011)

PART He-P 5004 ASBESTOS ANALYTICAL REQUIREMENTS

He-P 5004.01 <u>Applicability</u>. This part shall apply to the analysis of asbestos samples obtained pursuant to He-P 5003.

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5012)

He-P 5004.02 <u>Demonstration of Analytical Proficiency</u>. The following criteria shall apply to the analysis of asbestos:

- (a) For air sampling proficiency standards, the laboratory analysis of air samples shall be performed by either:
 - (1) A laboratory presently accredited by the American Industrial Hygiene Association for Asbestos;
 - (2) An analyst presently listed in the American Industrial Hygiene Association Asbestos Analysis Registry; or

- (3) A person who has successfully completed the National Institute for Occupational Safety and Health (NIOSH) <u>Course #582 "Sampling and Evaluating Airborne Asbestos"</u> and whose laboratory presently shows evidence of a proficient rating in the American Industrial Hygiene Association Proficiency Analytical Testing Program also known as the PAT Program;
- (b) For bulk sampling proficiency standards, the laboratory shall show evidence of a current proficiency rating in the National Volunteer Laboratory Accreditation Program (NVLAP), such as being listed in the most recent copy of the Federal Register containing the U.S. EPA's Accredited Laboratories AHERA list for Accredited Polarized Light Microscopy Laboratories; and
- (c) The analysis of bulk samples shall be performed by, or under the supervision of an analyst who has successfully completed an approved course of training in the techniques and procedures for identification of asbestos in bulk samples such as the McCrone Institute Bulk Analysis course.

New. #6557, eff 8-15-97 (formerly He-P 5012)

He-P 5004.03 Analytical Techniques.

- (a) Air samples shall be submitted for analysis to a laboratory that uses phase contrast microscopy for the analysis of air samples for asbestos content unless accredited by the National Institute of Standards and Technology (NIST) for transmission electron microscopy, in which case, said laboratory may analyze air samples via transmission electron microscopy.
- (b) Analytical procedures for phase contrast microscopy shall be in accordance with NIOSH Method 7400 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987. Air volumes sampled shall be sufficient to accurately determine, to a 95 percent probability, fiber concentrations of 0.01 fibers/cubic centimeters of air (f/cc).
- (c) Analytical procedures for transmission electron microscopy shall be as stated in 40 CFR Part 763 Appendix A to Subpart E, Mandatory and Non-Mandatory or, as defined and accepted by the National Institute of Standards and Technology for transmission electron microscopy accreditation.
- (d) Analytical procedures for polarized light microscopy shall be as stated in 40 CFR Part 763 Appendix A to Subpart F, "Interim Method of the Determination of Asbestos in Bulk Insulation Samples" or, as defined and accepted by the National Institute of Standards and Technology for polarized light microscopy accreditation.

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5012)

PART He-P 5005 ASBESTOS TRAINING COURSE REQUIREMENTS FOR ASBESTOS ABATEMENT AND SCHOOL ASBESTOS ABATEMENT PLANNING

He-P 5005.01 <u>Training Approval</u>. All training courses which are used to fulfill licensure and certification requirements for asbestos abatement and school asbestos abatement planning shall have been approved by:

- (a) The U.S. Environmental Protection Agency;
- (b) An U.S. Environmental Protection Agency approved state accreditation program; or
- (c) The department.

New. #6557, eff 8-15-97 (formerly He-P 5013); amd by #7467, eff 3-23-01

He-P 5005.02 <u>Approved Training Courses</u>. Training courses and refresher training courses shall be approved by the department, provided that:

- (a) Training courses shall be conducted by an approved training provider;
- (b) Training courses shall meet the following criteria:
 - (1) Courses of instruction required for certification shall be specific for each of the disciplines and meet the requirements set forth in the model accreditation plan;
 - (2) The topics or subjects of instruction shall be presented through a combination of lectures, demonstrations, and field trips or hands-on practice;
 - (3) Courses requiring hands-on training shall:
 - a. Be presented in an environment suitable to permit participants to have actual experience performing tasks associated with asbestos abatement;
 - b. Not be replaced by demonstrations not involving individual participant participation; and
 - c. Maintain a student to instructor ratio of not greater than ten to one;
 - (4) Training courses may be segmented subject to the following restrictions:
 - a. The total hours required by AHERA must be completed within a two week time frame;
 - b. Attendees shall not be required to sit through more than eight hours of actual training in a single 24 hour period; and
 - c. Evening instructions shall not exceed a maximum of four hours in any single session:
 - (5) Training courses for asbestos outlined in the model accreditation plan, shall utilize no less than two qualified instructors to provide training for each discipline with the exception that, one instructor may conduct courses for asbestos abatement workers provided that the instructor is both field experienced and qualified;

- (6) Training courses for asbestos abatement contractors and supervisors shall meet those requirements as set forth in the model accreditation plan (MAP);
- (7) Successful completion of the course for asbestos abatement contractors and supervisors shall be demonstrated by achieving a score of at least 70% on a written examination consisting of 100 multiple choice questions;
- (8) Training courses for asbestos abatement workers shall meet those requirements as set forth in the MAP;
- (9) Successful completion of the course for asbestos abatement workers shall be demonstrated by achieving a score of at least 70% on a written examination consisting of 50 multiple choice questions;
- (10) Training courses for asbestos inspectors shall meet those requirements as set forth in the MAP;
- (11) Successful completion of the course for asbestos abatement inspectors shall be demonstrated by achieving a score of at least 70% on a written examination consisting of 50 multiple choice questions;
- (12) Training courses for asbestos management planners shall meet those requirements as set forth in the MAP;
- (13) Successful completion of the course for management planners shall be demonstrated by achieving a score of at least 70% on a written examination consisting of 50 multiple choice questions;
- (14) Training courses for asbestos abatement project designers shall meet those requirements as set forth in the MAP; and
- (15) Successful completion of the course for asbestos abatement project designer shall be demonstrated by achieving a score of at least 70% on a written examination consisting of 100 multiple choice questions; and
- (c) Refresher training courses shall meet those requirements as set forth in the MAP. Each refresher course shall be specific to only one AHERA discipline. Successful completion of the course shall be demonstrated by achieving a score of at least 70% on a written examination consisting of 25 multiple choice questions.

New. #6557, eff 8-15-97 (formerly He-P 5013)

He-P 5005.03 <u>Approval Criteria for Training Providers</u>. Individuals or groups who wish to obtain department approval as training providers shall:

- (a) Make written application to the department on prescribed forms which contain:
 - (1) The name, address and telephone number of the applicant and a list of all names under which the applicant conducts or intends to conduct training;

- (2) A list of each asbestos training course which the applicant intends to offer including both initial and refresher training courses;
- (3) A list of all states and federal agencies which have certified, accredited, or given other forms of approval to the applicant to provide asbestos training, including the name, address and telephone number of the person, department, or agency giving such approval, and copies of all such written approvals;
- (4) An outline for each training course which the applicant intends to offer which shows topics covered and the amount of time to be given to each topic;
- (5) A copy of the applicant's manual for each training course which the applicant seeks to be approved to conduct, and all printed material to be distributed in each course;
- (6) A description of the teaching methods to be employed, including a description of audiovisual aids to be used;
- (7) A description of the hands-on facility to be utilized, including protocol for instruction, number of students to be accommodated, and the number of instructors;
- (8) A description of the equipment that will be used in both classroom lectures and in handson training;
- (9) A list of the names and qualifications of the persons who will provide the training in each course including their education, training, and experience;
- (10) An example of the written examination to be given in each course;
- (11) A copy of the certificate of completion to be given to successful course participants;
- (12) A list of any outstanding state or federal enforcement actions pending against the applicant with regard to asbestos abatement work; and
- (13) A statement by a responsible person that the applicant shall:
 - a. Have read and understood the New Hampshire asbestos management rules;
 - b. Certify that the application was prepared in conformity with the rules for asbestos control; and
 - c. Certify that all information contained, including any supplements attached, is true and correct to the best of their knowledge and belief;
- (b) Issue uniquely numbered certificates to all students who successfully complete initial and refresher courses;
- (c) Include the following information on the numbered certificates which they issue:
 - (1) Name and date of birth of the student;
 - (2) The course completed;
 - (3) The dates of the course and the examination;

- (4) The name, address, and telephone number of the training provider;
- (5) A statement that the student has completed the requisite training for asbestos accreditation under TSCA Title II;
- (6) An expiration date that is one year from the date on which the student is issued said certificate; and
- (7) The address of the location the course was given;
- (d) Comply with the record keeping requirements for training providers as set forth in the MAP;
- (e) Retain records of the following:
 - (1) The title of each initial and refresher course taught;
 - (2) The date(s) on which the course was provided; and
 - (3) The name, address, and date of birth of each student who successfully completed the course;
- (f) Notify the department, in writing within 30 days after, of any changes in course content, training aids used, facility utilized or other matters which would alter the instruction from that described in the application. Minor changes in agenda, such as guest speakers, if otherwise qualified, and course schedule shall be excepted;
- (g) Distribute and use as part of the course content any information or training aids furnished by the department which reflect changes in federal regulations or state rules;
- (h) Permit a representative of the department to audit courses and review examinations without cost to the department;
- (i) Provide written notification to the department at least 5 working days prior to providing any asbestos training courses;
- (j) Make written notification to include:
 - (1) Name of training provider;
 - (2) Course(s) to be given; and
 - (3) Location and dates of course(s); and
- (k) Make the records retained in accordance with He-P 5005.03 available to the department upon request.

New. #6557, eff 8-15-97 (formerly He-P 5013)

He-P 5005.04 <u>Application Approval or Denial</u>. Applications shall be processed in accordance with the provisions of RSA 541-A:29. Applications that do not include the information required in He-P 5005.02 and

He-P 5005.03 or contain false or fraudulent information shall be denied. Notice of denial shall include a specific list of reasons for denial and shall be sent to the applicant by certified mail. The applicant shall have the right to appeal the decision and shall file such appeal following the procedures set forth in He-P 5007.02.

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5013)

He-P 5005.05 Approval Renewal.

- (a) Training provider approval shall be effective for a period of one year.
- (b) The department shall renew approval as a training provider annually, provided the training provider:
 - (1) Submits a completed application for renewal, no later than thirty days prior to the expiration date of the current approval, including:
 - a. Information as set forth in He-P 5005.03(a)(1), (2), (9), (12), and (13), without reference to previously submitted material;
 - b. Information as set forth in He-P 5005.03(a)(3), (4), (5), (6), (7), (8), (10), and (11), which has changed from the original application; and
 - c. Information as set forth in He-P 5005.03(a) for any new training courses the applicant wishes to be approved to provide that were not applied for in the original application;
 - (2) Has attached any additional information and documentation required by these rules. Such information shall include a list of the type of asbestos training courses offered in the past year with the number of students that successfully completed the courses; and
 - (3) Has applied for renewal no later than 3 years after the expiration date of the previous approval. Any applications received from former approved training providers, whose approval has expired more than three years prior to the date of the renewal application, will not be accepted and shall submit new applications pursuant to He-P 5005.03.

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5013)

He-P 5005.06 Revocation, or Refusal to Renew Approval as a Training Provider.

- (a) The department criteria for revocation, or refusal to renew a training provider approval shall be:
 - (1) That the training course provider is not conducting training that meets the requirements of He-P 5005.02 or He-P 5005.03; or
 - (2) Failure of the training provider to comply with He-P 5005.03(b), (c), (d), (e), or (f).

- (b) Approved training providers shall be advised by the department in writing of the intent to revoke, or refuse to renew approval and the reasons therefor.
- (c) Approval holders may appeal the decision and shall file such appeal following the procedures set forth in He-P 5007.02.

New. #6369, EMERGENCY, eff 11-12-96, (formerly He-P 5013), EXPIRED: 3-12-97

New. #6557, eff 8-15-97

PART He-P 5006 SAFE WORKER PRACTICES

He-P 5006.01 Applicability.

- (a) The requirements of this part shall apply to all persons who are not subject to the requirements of the Occupational Health and Safety Act of 1970, 29 U.S.C. Sec. 651 et seq.
- (b) As used in this part, the term asbestos abatement shall apply to asbestos abatement activities as defined in RSA 141-E:2,II, school asbestos abatement planning as defined in RSA 141-E:2,VIII, and the disturbance of asbestos at asbestos disposal sites, as defined by RSA 141-E:2,III.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5015); ss by #7467, eff 3-23-01

He-P 5006.02 <u>Respiratory Protection</u>. Contractors shall submit a respiratory protection program written in accordance with the requirements of 29 CFR 1910.134(b), (d), (e), and (f). Contractors shall make a copy of this program available to workers upon request.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

<u>New.</u> #6557, eff 8-15-97 (formerly He-P 5015)

He-P 5006.03 Respirators.

- (a) Contractors shall select respirators in accordance with the following:
 - (1) The model, type or brand of respirators used in asbestos abatement work shall have been tested and approved by NIOSH for use in asbestos contaminated atmospheres; and

- (2) Respirators shall be selected that meet or exceed the level of protection specified in 29 CFR 1926.1101(h).
- (b) The following shall apply to the fitting of respirators:
 - (1) Workers shall be given the opportunity to choose a respirator which provides a proper and comfortable fit;
 - (2) Workers shall be provided training so as to be able to perform positive and negative pressure respirator fit tests;
 - (3) Each worker shall be fitted with a respirator using the procedures contained in 29 CFR 1926.1101, Appendix C. The respirator shall be deemed to fit properly if the worker passes a respirator fit test contained in 29 CFR 1926.1101, Appendix C; and
 - (4) Respirator fit testing shall be conducted by an owner, manager, or contractor licensed by the department, or by an industrial hygienist certified by American Board of Industrial Hygienists.
- (c) Practices that shall be prohibited shall be as follows:
 - (1) No owner, manager, contractor or worker shall enter an abatement area without the level of respiratory protection specified in He-P 5006.03(a)(2) for the level of exposure found in the abatement area; and
 - (2) No owner, manager, contractor, worker or person with beards or other physical characteristics which can interfere with the respirator-to-face seal shall enter an abatement area unless equipped with other respiratory protective gear as approved pursuant to 29 CFR 1926.1101(h).

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5015)

He-P 5006.04 <u>Protective Clothing.</u> Contractors shall provide workers with personal protective equipment and clothing as specified in 29 CFR 1926.1101(i).

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5015)

He-P 5006.05 <u>Medical Surveillance</u>. Contractors shall provide workers conducting abatement activities with medical monitoring as specified in 29 CFR 1926.1101(m).

Source. #4269, eff 6-24-87; ss by

#4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5015)

He-P 5006.06 <u>Air Monitoring</u>. Contractors shall conduct representative air monitoring for worker protection during abatement activities as specified in 29 CFR 1926.1101(f) and in accordance with the following:

- (a) Make records of air monitoring results available for review at the worksite for the duration of the abatement project and include:
 - (1) The location where the sample was collected;
 - (2) The date and time when the sample was collected;
 - (3) The sampling rate and length of time sampled;
 - (4) The method of samples analysis; and
 - (5) The results of the analysis; and
- (b) Records of air monitoring results shall be maintained in accordance with Env-A 1804.04.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

<u>New.</u> #6557, eff 8-15-97 (formerly He-P 5015)

He-P 5006.07 <u>Personal Hygiene Requirements.</u> Contractors shall provide hygiene facilities and follow those hygiene practices specified in 29 CFR 1926.1101(j).

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5015)

He-P 5006.08 <u>Hazard Communication</u>. Contractors shall comply with the requirements of 29 CFR 1926.1101 (k) regarding hazard communication.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5015)

PART He-P 5007 INSPECTION AND ENFORCEMENT

He-P 5007.01 <u>Issuance of Notices of Violation</u>, <u>Notice of Administrative Fines</u>, <u>Orders of Abatement</u>, and Orders for Corrective Action.

- (a) A report listing the violations found during the inspection shall be prepared by the inspector and shall be kept on file by the department. A copy of the report shall be provided to the owner, manager, contractor, or worker upon written request.
- (b) The department shall notify by certified mail the owner, manager, contractor, worker, or person, of any noncompliance with these rules and of proposed fines, if any.
- (c) When the commissioner issues an order under RSA 141-E:14 concerning violations of RSA 141-E:7 or RSA 141-E:8 that order shall become effective upon receipt.
- (d) If upon inspection the commissioner determines that Pursuant to He-P 5003.03, damage or deterioration of friable asbestos material has occurred, or that pursuant to He-P 5003.04, a potential for significant human exposure exists, or that pursuant to He-P 5003.05, airborne asbestos fiber counts exceed 0.01 fibers/cc for non-occupational exposures or 0.1 fibers/cc for occupational exposures, he shall order the building owner or manager to abate the health risks.
- (e) The commissioner shall order closure of affected areas in accordance with RSA 141-E:7, when the building owner or manager fails to abate the health risk. The commissioner shall choose the least burdensome methods of achieving the necessary level of abatement by taking into account local circumstances, building occupancy and use patterns, and the short-and long-term costs associated with the abatement method. Abatement measures shall be considered satisfactory if, after abatement, airborne fiber

counts do not exceed 0.01 fibers/cc for non-occupational exposures and 0.1 fibers/cc for occupational exposures when measured in accordance with He-P 5004.03.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5017)

He-P 5007.02 Appeals Procedure.

- (a) Within 10 working days of the date of receipt of the department's decision to deny the initial application, suspend or revoke a license or certificate, or the issuance of an order or notice of violation, or notice of administrative fine, the applicant, licensee, certificate holder, or persons named in the notice or order may appeal the department's determination and request a hearing.
- (b) The request shall be in writing and signed by the applicant, licensee, certificate holder, or by the persons named in the order or notice.
- (c) The hearing shall be conducted in accordance with the provisions of He-P 200.
- (d) If the applicant, licensee, certificate holder, or persons named in the notice or order does not request an adjudicative hearing within 10 days of receipt of the department's order or notice of violation, and/or notice of

administrative fines, the decision of the commissioner to the applicant, licensee, certificate holder, or person named in the notice or order shall be final.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5017)

PART He-P 5008 LICENSING AND CERTIFICATION, ASBESTOS ABATEMENT AND SCHOOL ASBESTOS ABATEMENT PLANNING

He-P 5008.01 Applicability.

- (a) Pursuant to RSA 141-E:10 and RSA 141-E:11, the rules in this part shall apply to any contractor, employer or individual that engages in any asbestos abatement or school asbestos abatement planning activities.
- (b) As per the EPA AHERA regulations: Individuals who intend to conduct asbestos inspections of schools, or provide services as an asbestos management planner or project designer to schools, shall apply to the department for certification as either an asbestos inspector, asbestos management planner, or as an asbestos project designer.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018); amd by #7326, INTERIM, eff 7-28-00, EXPIRES: 1-24-01; amd by #7467, eff 3-23-01

He-P 5008.02 Exemptions.

- (a) The owner of a single family private residence who is personally performing asbestos abatement within the confines of his private residence shall be exempt from He-P 5000;
- (b) Any person or entity, other than maintenance personnel, who performs only minor asbestos abatement projects as defined in He-P 5002.01(ac) and Env-A 101 shall be exempt from He-P 5008.09 and He-P 5008.10 provided that such person or entity complies with Env-A 1800 and holds a valid asbestos abatement certificate issued pursuant to He-P 5008.11 or He-P 5008.10;
- (c) Any person or entity working only as an asbestos inspector, asbestos management planner, asbestos abatement project designer, or a combination of these, shall be exempt from the licensing requirements of He-P 5008.09 provided these services shall not be provided to schools; and
- (d) Maintenance personnel shall be exempt from licensing and certification requirements for asbestos abatement site supervisors and workers provided that:
 - (1) These employees are performing only operations, maintenance, and repair activities that are:
 - a. Of small-scale, short-duration as defined in 40 CFR 763, subpart E; and

- b. Limited to less than or equal to 3 linear feet of asbestos surface on pipes or ducts, or 3 square feet of asbestos containing building material on surface structures other than pipes or ducts;
- (2) Maintenance personnel who work in buildings that contain asbestos containing building material shall receive 16 hours of initial training as described in 40 CFR Subpart E 763.92(a) (1) and (2); and
- (3) Maintenance personnel subject to He-P 5008.02(d) shall receive 4 hours of refresher training one time every 2 years. Refresher courses shall include changes in federal and state regulations, developments in state-of-the-art procedures, and a review of key aspects of the initial training course.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018); amd by #7467, eff 3-23-01

He-P 5008.03 Reciprocity.

- (a) Asbestos abatement site supervisors, workers, inspectors, management planners, and project designers granted certification by other states, or the U.S. EPA, shall be granted reciprocity by the state of New Hampshire in accordance with RSA 141-E:11 and providing that the certification requirements of said state are substantially equivalent to the provisions of He-P 5000 for the individual discipline certification being applied for.
- (b) The reciprocity applicant shall apply in accordance with the procedures outlined in He-P 5008.04 and shall fulfill the individual requirements as specified for the individual discipline certification for which application is being made.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.04 <u>General Application Procedures</u>. The following procedures shall be followed when applying for licenses or certificates:

- (a) All application forms for asbestos abatement licenses or certificates shall be obtained from the department;
- (b) All applicants shall supply the following information on the application:
 - (1) Name, address, telephone number, and date of birth of the applicant;
 - (2) Name, address, and telephone number of the principle place of business and/or employment of the applicant;
 - (3) A list of any outstanding state or federal enforcement actions pending against the

applicant with regard to asbestos abatement work;

- (4) A statement by a responsible person that the applicant shall:
 - a. Have read and understood the New Hampshire asbestos management rules;
 - b. Certify that the application was prepared in conformity with the New Hampshire administrative rules for asbestos control; and
 - c. Certify that all information contained, including any supplements attached, is true and correct to the best of their knowledge and belief; and
- (5) Two clear, unmutilated, and unstapled 1 1/2 inch by one inch color photographs of the applicant. The name of the applicant shall be legibly printed on the back of each photograph;
- (c) Combination applications shall be allowed for asbestos inspector, asbestos management planner, and project designer provided that the applicant fulfills the application requirements for each discipline being applied for and applies for the certifications at the same time. Any applications received separately from the same applicant shall be treated as separate applications;
- (d) An appropriate application fee as set forth in He-P 5008.06 of these rules shall accompany the application form. Bank checks, certified checks, company checks, and money orders shall be made out to "Treasurer, State of New Hampshire";
- (e) An application shall be considered incomplete when:
 - (1) The information or documentation required by these rules is incomplete or not included; or
 - (2) The required fee has not been included with the application as received by the department;
- (f) Department action on the application shall be in accordance with RSA 541-A:29;
- (g) The applicant shall provide training course documentation accompanying a license or certificate application which shall show training to be current at the time of application by submission of a copy of the dated training certificate to the department;
- (h) Requests for a replacement or duplicate certificate shall be granted for lost or stolen certificates provided such requests are:
 - (1) In writing;
 - (2) Signed by the certificate holder;
 - (3) Accompanied by two photographs as referenced in He-P 5008.04(b)(5); and
 - (4) Accompanied by the appropriate application fee as set forth in He-P 5008.06(b)(8); and
- (i) Found certificates shall be returned to the department.

Source. #4951, eff 10-11-90,

EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.05 General Renewal Application Procedures.

- (a) All renewal forms for licenses or certificates issued under these rules shall be obtained from the department and shall contain the information required in He-P 5008.04, and He-P 5008.09, He-P 5008.10, He-P 5008.11, He-P 5008.12, He-P 5008.13, or He-P 5008.14.
- (b) Applications for renewal shall not be accepted for former license or certificate holders whose licenses or certificates expired more than three years prior to the date of the renewal application. Such former license or certificate holders shall submit new applications pursuant to He-P 5008.04.
- (c) Renewal applications for combination certifications shall be allowed provided the renewal application reflects the same number and type of certificates originally applied for. Applicants applying for any changes in the number or type of certificates being applied for shall submit new applications pursuant to He-P 5008.04.
- (d) Applications for renewal shall be accepted for renewal no earlier than 60 days before expiration of the current license or certificate.
- (e) An appropriate application fee as set forth in He-P 5008.06 of these rules shall accompany the application form. Bank checks, certified checks, company checks, and money orders shall be made out to "Treasurer, State of New Hampshire".
- (f) A renewal application shall be considered incomplete when:
 - (1) The information or documentation required in He-P 5008.04, and He-P 5008.09, He-P 5008.10, He-P 5008.11, He-P 5008.12, He-P 5008.13, or He-P 5008.14 is lacking or not included; or
 - (2) The required fee has not been included with the application.
- (g) Department action on the renewal application shall be in accordance with RSA 541-A:29.
- (h) Annual refresher course documentation accompanying a license or certificate application shall be current at the time of renewal of said application.

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.06 Fee Structure.

- (a) An application fee in the form of a bank check, certified check, company check, cash or money order shall accompany each license or certificate application.
- (b) The fee structure for each category of license and certificate application shall be as follows:

- (1) An asbestos abatement entity shall be charged a \$1000.00 initial licensing fee and \$500.00 for each annual license renewal;
- (2) An asbestos abatement site supervisor shall be charged a \$200.00 initial certification fee and \$150.00 for each annual certificate renewal;
- (3) An asbestos abatement worker shall be charged a \$50.00 initial certification fee and \$40.00 for each annual certification renewal;
- (4) An asbestos inspector shall be charged a \$100.00 initial certification fee and \$75.00 for each annual certification renewal;
- (5) An asbestos management planner shall be charged a \$100.00 initial certification fee and \$75.00 for each annual certification renewal;
- (6) An asbestos project designer shall be charged a \$100.00 initial certification fee and \$75.00 fee for each annual certification renewal;
- (7) Combination certifications shall be charged \$100.00 for the first certification and \$50.00 for each additional certification on the same application. Fees for renewing identical applications shall be charged \$75.00 for the first certification and \$50.00 for each additional certification; and
- (8) The charge for a duplicate certification for replacement of a lost or stolen certificate, shall be \$15.00.
- (c) The application fee shall be refunded if the application is withdrawn or denied.

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.07 License and Certificate Denial, and Revocation.

- (a) Denial of asbestos abatement licenses or certificates shall be in accordance with RSA 541-A:29. Notice of denial shall be sent to the applicant by certified mail.
- (b) The department shall deny a license or certificate upon:
 - (1) The applicant's official record including sections for violations of health and safety provisions in the laws or regulations of any state's, or the federal government which pose a threat to workers or the public;
 - (2) The applicant's submission of false or fraudulent information on an application;
 - (3) The applicant's failure to submit the required information or documentation with the application; or
 - (4) The applicant's inability to comply with any applicable federal or state standard for asbestos projects.

- (c) The department shall revoke an asbestos abatement license or certificate in accordance with RSA 541-A:30, II, and III, for violations of these rules, or any other state or federal statutes or rules pertaining to asbestos.
- (d) Applicants shall have the right to appeal the decision for denial, proposed revocation or refusal to renew said license or certificate. The applicant shall file the appeal following the procedures set forth under He-P 5007.02.

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.08 Expiration. All licenses and certificates shall expire one year from the date in which the license or certificate was issued unless revoked prior to the expiration date.

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.09 Entity License Requirements.

- (a) No asbestos abatement entity shall engage in any asbestos abatement project unless it is licensed to do so by the department or unless it qualifies for an exemption as set forth in He-P 5008.02.
- (b) In order to be licensed, an asbestos abatement entity shall:
 - (1) Apply in accordance with He-P 5008.04 of these regulations;
 - (2) Include a list of the names and addresses of the responsible person(s) of the applicant, and all management persons having primary responsibility for, and control over the asbestos work of the applicant;
 - (3) Include a list of all names, acronyms, or other identifiers by which the applicant is, or has been known, or under which the applicant does or has done business;
 - (4) Include a list of NH certified asbestos abatement site supervisors in its employ at the time of application; and
 - (5) Include documentation of attendance and completion, by a responsible person, of an approved training course for asbestos abatement contractors and supervisors as outlined in He-P 5005.02(b)(6) and He-P 5005.02(b)(7).
- (c) In order to be licensed and maintain licensure, an asbestos abatement entity shall:
 - (1) Have a current copy of these rules available at the asbestos abatement worksite;
 - (2) Have all business and personnel records of all asbestos abatement projects which are performed by the entity maintained and retained for 30 years;
 - (3) Notify the department within 30 days after of any change in whom the entity employs as

NH certified asbestos abatement site supervisors;

- (4) Have an asbestos abatement site supervisor who has been properly trained and certified in accordance with He-P 5008.10 of these rules remain present on-site whenever any asbestos abatement activity is being carried out as part of an asbestos abatement project;
- (5) Require all employees engaged in asbestos abatement activities have been properly trained and certified in accordance with these rules, and if requested by the department the entity shall submit documentation of all employee training;
- (6) Have a respiratory protection program for non-OSHA regulated work implemented in accordance with He-P 5006.02, and if requested shall submit a copy of this written respiratory protection program;
- (7) Implement an air monitoring program for non-OSHA regulated work in accordance with He-P 5006.06, during asbestos abatement projects for employees who may be exposed to airborne asbestos fibers, and if requested submit a written description of this program;
- (8) Notify the department within 30 days after of any change in the list of the names and addresses of the responsible person(s) of the applicant; and
- (9) Maintain an accurate listing of names of individuals entering and exiting an established asbestos abatement containment area.
- (d) The department shall renew an asbestos license annually provided:
 - (1) The current license holder applies in accordance with He-P 5008.05 of these rules; and
 - (2) The current license holder provides the following:
 - a. An updated list of NH certified asbestos abatement supervisors in its employ;
 - b. A list of projects by the company within the last twelve months stating date of project, name of project owner, contact person, telephone number, and project site supervisor(s); and
 - c. Documentation of attendance and completion, by a responsible person, of an annual refresher course for asbestos abatement contractors and supervisors as outlined in He-P 5005.02(c).

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.10 Asbestos Abatement Site Supervisor Certificate Requirements.

(a) Except as exempted by He-P 5008.02, no individual shall engage in any on-site supervision of asbestos abatement workers during an asbestos abatement project without first being certified as an asbestos site supervisor.

- (b) In order to be certified as an asbestos abatement supervisor, the individual shall:
- (1) Apply for a certificate in accordance with He-P 5008.04;
 - (2) Provide documentation of at least 12 months of asbestos abatement work experience;
 - (3) Provide documentation of attendance and completion of an approved training course for asbestos abatement contractors and supervisors as outlined in He-P 5005.02(b)(6) and He-P 5005.02(b)(7); and
 - (4) Provide documentation of attainment of a score of 70% or greater on the required written examination.
- (c) The department shall renew an asbestos abatement site supervisor certificate annually provided:
 - (1) The current certificate holder applies in accordance with He-P 5008.05; and
 - (2) The current certificate holder provides the following:
 - a. Documentation of attendance and completion of an approved asbestos abatement site supervisor annual review course as outlined in He-P 5005.02(c); and
 - b. A list of projects supervised by the applicant within the last twelve months stating date of project, name of project owner, contact person, and telephone number.

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.11 Asbestos Abatement Worker Certificate Requirements.

- (a) Except as exempted by He-P 5008.02, no individual shall perform as an asbestos abatement worker without first being certified as an asbestos abatement worker under these rules.
- (b) Any individual seeking certification as an asbestos abatement worker shall:
 - (1) Apply for a certificate in accordance with Section He-P 5008.04;
 - (2) Provide documentation of attendance and completion of an approved training course for asbestos abatement workers as outlined in He-P 5005.02(b)(8) and He-P 5005.02(b)(9); and
 - (3) Provide documentation of attainment of a score of 70% or greater on the required written examination.
- (c) The department shall renew an asbestos worker certificate annually provided:
 - (1) The current certificate holder applies in accordance with He-P 5008.05; and
 - (2) The current certificate holder provides documentation of attendance and completion of an approved asbestos abatement worker annual review course as outlined in He-P 5005.02(c).

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.12 Asbestos Inspector Certificate Requirements

- (a) No individual shall perform any asbestos inspections of schools, as defined by AHERA, without first being certified as an asbestos inspector.
- (b) Any individual seeking certification as an asbestos inspector shall:
 - (1) Apply for a certificate in accordance with He-P 5008.04;
 - (2) Provide documentation of attendance and completion of an initial approved training course for asbestos inspectors as outlined in He-P 5005.02(b)(10) and He-P 5005.02(b)(11);
 - (3) Provide documentation of attainment of a score of 70% or greater on the required written examination; and
 - (4) Provide documentation demonstrating applicant has a minimum of 6 months experience in a comparable occupation or 2 months field experience under the supervision of a certified asbestos inspector or management planner.
- (c) The department shall renew an asbestos inspector certificate annually provided:
 - (1) The current certificate holder applies in accordance with He-P 5008.05; and
 - (2) The current certificate holder provides documentation of attendance and completion of an approved asbestos abatement inspector review training course as outlined in He-P 5005.02 (c).

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.13 Asbestos Management Planner Requirements.

- (a) No individual shall function as an asbestos management planner for schools without first being certified as an asbestos management planner.
- (b) Any individual seeking certification as an asbestos management planner shall:
 - (1) Apply for a certificate in accordance with He-P 5008.04;
 - (2) Provide documentation of attendance and completion of an approved management planning training course as outlined in He-P 5005.02(b)(12) and He-P 5005.02(b)(13);
 - (3) Provide documentation of passing the course with a score of 70% or greater on the

written examination;

- (4) Provide documentation demonstrating applicant has a minimum of an associate degree or certificate of completion in:
 - a. Project planning;
 - b. Management;
 - c. Environmental sciences:
 - d. Engineering;
 - e. Construction;
 - f. Architecture;
 - h. Industrial hygiene;
 - i. Occupational health, or
 - j. Related scientific field; and
- (5) Provide documentation demonstrating applicant has a minimum of 6 months experience in asbestos abatement fields including experience in asbestos management or a combination of education and experience equivalent to the above.
- (c) The department shall renew an asbestos management planner certificate annually provided:
 - (1) The current certificate holder applies in accordance with He-P 5008.05; and
 - (2) The current certificate holder provides:
 - a. Documentation of attendance and completion of an approved asbestos management planner annual review training course as outlined in He-P 5005.02(c); and
 - b. Documentation of passing the course with a score of 70% or greater on the written examination.

Source. #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6557, eff 8-15-97 (formerly He-P 5018)

He-P 5008.14 Asbestos Project Designer Requirements.

- (a) No individual shall function as an asbestos project designer for schools without first being certified as an asbestos project designer.
- (b) Any individual seeking certification as an asbestos project designer shall:

- (1) Apply for a certificate in accordance with He-P 5008.04;
- (2) Provide documentation of attendance and completion of an approved abatement project designer course as outlined in He-P 5005.02(b)(14) and He-P 5005.02(b)(15);
- (3) Provide documentation of passing the course with a score of 70% or greater on the written examination; and
- (4) Provide documentation demonstrating the applicant has:
 - a. At least 12 months experience in asbestos abatement fields and has a bachelor's degree in industrial hygiene, occupational health, environmental science, biological or physical science;
 - b. At least 12 months experience in asbestos abatement fields and is a registered architect or registered engineer; or
 - c. At least 2 years employment experience in asbestos abatement fields including experience in asbestos abatement design.
- (c) The department shall renew an abatement project designer certificate annually provided:
 - (1) The current certificate holder applies in accordance with He-P 5008.05; and
 - (2) The current certificate holder provides:
 - a. Documentation of attendance and completion of an approved abatement project designer annual review training course as outlined in He-P 5005.02(c); and
 - b. Documentation of passing the course with a score of 70% or greater on the written examination.

New. #6557, eff 8-15-97 (formerly He-P 5018)

PART He-P 5009 ADMINISTRATIVE FINES

He-P 5009.01 Notice.

- (a) Notice of the administrative fine shall be sent to the owner, manager, contractor, worker, or person(s) named in the notice in accordance with He-P 5007.01.
- (b) The notice shall include:
 - (1) A statement of the violation(s);
 - (2) The fine for the violation(s) pursuant to He-P 5009.03; and
 - (3) The person(s) rights and options pursuant He-P 5007.02 and He-P 5009.02.

Source. #4269, eff 6-24-87, EXPIRED: 10-11-96

<u>New.</u> #6557, eff 8-15-97 (formerly He-P 5019)

He-P 5009.02 Payment of Fines.

- (a) A person may waive the right of appeal of the notice of fine and pay the fine within 10 working days of the date of receipt of the notice of the proposed fine.
- (b) In all other cases, fines shall be paid within 10 working days of the date of the decision as a result of a hearing, if the fine is upheld.
- (c) Payment shall be made by bank check, certified check, company check, cash, or money order made payable to "Treasurer, State of New Hampshire".

Source. #6557, eff 8-15-97 (formerly He-P 5019)

He-P 5009.03 Schedule of Fines.

- (a) Fines for violations of the provisions of RSA 141-E and He-P 5000 shall be imposed pursuant to the provisions of RSA 141-E:16 and He-P 5009.
- (b) Administrative fines shall be levied by the commissioner for the amount specified in the following instances:
 - (1) For willful submission of false or fraudulent information on or with an application, the fine shall be \$100.00;
 - (2) For falsification of any license required by this chapter, the fine shall be \$2,000.00;
 - (3) For falsification of a NH asbestos abatement supervisor certification, the fine shall be \$250.00;
 - (4) For falsification of any worker certification required by this chapter, the fine shall be \$150.00;
 - (5) For falsification of a NH asbestos inspector, asbestos management planner, and/or asbestos project designer certificate, or any combination thereof, the fine shall be \$250.00 for each certification;
 - (6) For failure to have the valid license or a copy of the valid license available for inspection at the worksite, the fine shall be \$100.00;
 - (7) For failure to have valid certificate(s) or a copy of valid certificate(s) available for inspection at the worksite, the fine shall be \$100.00;
 - (8) For failure to have a current copy of He-P 5000 available at the worksite, the fine shall be \$100.00;

- (9) For failure of a business or entity to keep all business and personnel records in accordance with this chapter, the fine shall be \$100.00;
- (10) For failure to notify the department within 30 days of any changes in whom the entity employs as NH certified supervisors, the fine shall be \$100.00;
- (11) For failure to provide written notification to the department in accordance with this chapter, the fine shall be \$100.00;
- (12) For failure to accurately record the names of individuals entering and exiting an established asbestos abatement containment area, the fine shall be \$100.00;
- (13) For falsification of NH approval of asbestos training courses by a training provider, the fine shall be \$250.00;
- (14) For the first repeat violation the fine shall be double the amount assessed for the original violation;
- (15) For the second repeat violation the fine shall be triple the amount assessed for the original violation, though not to exceed \$2000.00;
- (16) For all subsequent repeat violations the fine shall be of \$2000.00;
- (17) For performing work without a required worker certificate as specified by this chapter, the fine shall be \$150.00;
- (18) For engaging in on-site supervision of asbestos abatement workers during an asbestos abatement project without first being certified as an asbestos abatement supervisor the fine shall be \$250.00;
- (19) For performing asbestos inspections of schools, as defined by AHERA, without first being certified as an asbestos inspector the fine shall be \$250.00;
- (20) For performing as an asbestos management planner for schools without first being certified as an asbestos management planner the fine shall be \$250.00;
- (21) For performing as an asbestos project designer for schools without first being certified as an asbestos project designer, the fine shall be \$250.00;
- (22) For failure to obtain a license as required by this chapter, the fine shall be \$1,000.00; and
- (23) For failure to comply with any other condition(s) of a license as required by this chapter, the fine shall be \$1,000.00 per condition.

Source. #6557, eff 8-15-97 (formerly He-P 5019); amd by #7467, eff 3-23-01

PART He-P 5010 WAIVERS

He-P 5010.01 <u>Applicability</u>. The rules in this part shall apply to any entity or individual seeking a waiver to a requirement for licensure or certification in He-P 5008, He-P 5011, He-P 5012, or He-P 5013.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5010.02 Waiver Requests.

- (a) All requests for waiver shall be submitted to the department, in writing and in duplicate.
- (b) Each request for waiver shall include the following information:
 - (1) Applicant identification, as follows:
 - a. If the applicant is an individual, the individual's:
 - 1. Name;
 - 2. Mailing address;
 - 3. Principal place of business;
 - 4. Telephone number; and
 - 5. Date of birth;
 - b. If the applicant is a corporation, the:
 - 1. Corporation name;
 - 2. State of incorporation;
 - 3. Address of its principal place of business; and
 - 4. For its responsible persons, their:
 - (i) Names;
 - (ii) Titles;
 - (iii) Dates of birth; and
 - (iv) Addresses;
 - c. If the applicant is a partnership, the:
 - 1. Partnership name;
 - 2. State of formation;

3. Address of its principal place of business; and
4. For its responsible persons, their:
(i) Names;
(ii) Titles;
(iii) Dates of birth; and
(iv) Addresses;
d. If the applicant is any other kind of association or organization, the:
1. Association or organization name;
2. State of formation;
3. Address of its principal place of business; and
4. For its responsible persons, their:
(i) Names;
(ii) Titles;
(iii) Dates of birth; and
(iv) Addresses;
e. If the applicant is a political subdivision or other public entity, the:
1. Political subdivision name;
2. Mailing address; and
3. For its responsible persons, their:
(i) Names;
(ii) Titles;
(iii) Dates of birth; and
(iv) Addresses;
ddress, and telephone number of the principal place of business and empant;

- (2) Name, ad oloyment of the applica
- (3) Identification of the specific rule(s) from which the applicant is seeking a waiver;
- (4) The period of time during which the applicant wishes the waiver to be effective;

- (5) Description of the specific project(s) to which the waiver is intended to apply or a statement that the requested waiver is intended to apply without regard to a specific project (s);
- (6) A full explanation of why the waiver is necessary, including an explanation of the hardship that would be caused by having to comply with the rule;
- (7) A full explanation, with supporting data, of the alternative(s), if any, that the applicant proposes to use in lieu of complying with the rule;
- (8) A full explanation of how each of the alternatives proposed pursuant to (7) above, are consistent with the purpose and intent of RSA 141-E and He-P 5000, and are otherwise adequate to protect public health, safety and the environment; and
- (9) A list of all state and federal enforcement actions, both past and pending, against the applicant, including responsible persons, with regard to environmental, health or safety activities, and the current status of each such enforcement action.
- (c) Each request for waiver shall be dated and signed by the applicant under penalties of RSA 641:3.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5010.03 Review and Decision.

- (a) Waiver requests shall be reviewed by the department in accordance with RSA 541-A:29.
- (b) Following review of a complete request, the department, in consultation with the department of environmental services, shall either:
 - (1) Approve the requested waiver if the department finds that, under the terms and conditions of the requested waiver:
 - a. The purpose and intent of RSA 141-E and He-P 5000 will be met, and
 - b. Public health, safety and the environment will be protected; or
 - (2) Deny the requested waiver if the department finds that:
 - a. The terms and conditions of the requested waiver contravene any purpose or intent of RSA 141-E or He-P 5000, or otherwise fail to protect the public health, safety, or environment;
 - b. The terms and conditions of the requested waiver are contrary to a state or federal requirement for management and control of asbestos, including but not limited to the requirements identified in He-P 5001.01(b);
 - c. The applicant has submitted incomplete information in the request for waiver and has not corrected the omission despite notification pursuant to RSA 541-A:29,I;

- d. The applicant has submitted material information in the request for waiver that is false or misleading; or
- e. The applicant, including its responsible persons, has a performance history including violations of any state or federal environmental, health, or safety requirement that relates to the type of work for which licensure is sought, that causes the department to conclude that the applicant will not be able to comply with these rules.
- (c) The department shall notify the applicant in writing of the decision to either approve or deny the requested waiver.
- (d) A notice of denial shall state clearly the reasons for denial.
- (e) A notice of approval shall include the terms and conditions under which the waiver is granted, including the effective date and expiration date.
- (f) In no case shall the waiver of any licensure or certification requirement in He-P 5008, He-P 5011, He-P 5012, or He-P 5013 be construed to mean there is no obligation to comply with other federal, state, and local requirements for asbestos management and control, including, but not limited to the requirements identified in He-P 5001.01(b).

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

PART He-P 5011 LICENSING, ASBESTOS DISPOSAL SITE CONTRACTORS

He-P 5011.01 <u>Purpose</u>. The purpose of the rules in this part is to implement the provisions in RSA 141-E:10 that require contractors, employers, including self-employed individuals, and other individuals that disturb asbestos at asbestos disposal sites to be licensed.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5011.02 <u>Applicability</u>. Except as specified in He-P 5011.03, any contractor, employer or individual that disturbs asbestos at an asbestos disposal site shall hold a valid license issued pursuant to this part.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5011.03 <u>Exemptions</u>. The following individuals that disturb asbestos at asbestos disposal sites shall not be required to hold a license issued pursuant to this part:

(a) Individuals identified in RSA 141-E:10,I(a), namely individuals certified pursuant to He-P 5012 who perform the work for a contractor, employer or other individual holding a valid license issued pursuant to this part; and

- (b) Owners of single-family owner occupied properties who, on said property only, personally perform the work, subject to the following conditions:
- (1) The owner shall be trained and certified pursuant to He-P 5012; and
 - (2) The work shall be done in a manner that precludes the release of asbestos fibers and in accordance with other federal, state, and local requirements, including the requirements identified in He-P 5001.01(b);
- (c) Entities and individuals undertaking a small-scale, short duration disturbance of asbestos at an asbestos disposal site, subject to the following conditions:
 - (1) The entity or individual shall not be under license suspension or revocation pursuant to these rules;
 - (2) The quantity of material disturbed shall not exceed one cubic foot;
 - (3) The area of disturbance shall not exceed 3 square feet;
 - (4) The work shall be completed within 2 hours of being initiated;
 - (5) The entity or the individual shall assure that the local health officer is notified before the work commences and that the local health officer, the department, and department of environmental services are provided access to the work site for inspection;
 - (6) The work shall be done in a manner that precludes the release of asbestos fibers and in accordance with other federal, state, and local requirements, including the requirements identified in He-P 5001.01(b); and
 - (7) The work shall not be part of a larger project that is being segmented into small scale, short duration tasks; and
- (d) Entities and individuals removing non-friable asbestos only from the ground surface to a container for disposal, subject to the following conditions:
 - (1) The activity shall not involve excavation below the ground surface;
 - (2) The activity shall not involve contact with friable asbestos or asbestos that exhibits friable characteristics; and
 - (3) The work shall be done in a manner that precludes the release of asbestos fibers and in accordance with other federal, state, and local requirements, including the requirements identified in He-P 5001.01(b).

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5011.04 Applications for Licensure.

He-P 5000 Asbestos Mngt (a) Entities and individuals seeking a license to disturb asbestos at an asbestos disposal site shall submit an application in writing to the department, prepared on a form provided by the department. (b) The application shall include the following: (1) Applicant identification, as follows: a. If the applicant is an individual, the individual's: 1. Name; 2. Mailing address; 3. Principal place of business; 4. Telephone number; and 5. Date of birth; b. If the applicant is a corporation, the: 1. Corporation name; 2. State of incorporation; 3. Address of its principal place of business; and 4. For its responsible persons, their: (i) Names; (ii) Titles; (iii) Dates of birth; and (iv) Addresses; c. If the applicant is a partnership, the: 1. Partnership name; 2. State of formation; 3. Address of its principal place of business; and

4. For its responsible persons, their:

(i) Names;

(ii) Titles;

(iii) Dates of birth,; and

(iv)) Addresses;
d. I	If the applicant is any other kind of association or organization, the:
1. A	Association or organization name;
2. \$	State of formation;
3 . <i>A</i>	Address of its principal place of business; and
4. F	For its responsible persons, their:
(i)]	Names;
(ii)	Titles;
(iii)) Dates of birth; and
(iv)) Addresses;
e. I	If the applicant is a political subdivision or other public entity, the:
1. I	Political subdivision name;
2. N	Mailing address; and
3. I	For its responsible persons, their:
(i)]	Names;
(ii)	Titles;
(iii)) Dates of birth; and
(iv)) Addresses;
. ,	itle, mailing address, and telephone number of the individual affiliated with by the applicant to be contacted regarding the application;
	f each responsible person who fulfills the licensing requirement specified in b), plus the following additional information about each such person:
a. Title and principal of	duties;
b. Mailing address;	
c. Telephone number;	
d. Date of birth; and	
e. (Current certificate number;

- (4) Identification of all licenses, both past and present, issued to the applicant pursuant to either He-P 5008 or He-P 5011;
- (5) A list of all state or federal enforcement actions, both past and pending, against the applicant, including its responsible persons, with regard to environmental, health or safety activities, and the current status of each such enforcement action;
- (6) A list of all individuals currently employed or otherwise associated with the applicant who, under the authority of the applicant's license, if issued, will perform work relating to the disturbance of asbestos at asbestos disposal sites, including the following information about each person:
 - a. Name;
 - b. Date of birth;
 - c. Position title;
 - d. Business mailing address;
 - e. Business telephone number;
 - f. If the individual is certified pursuant to He-P 5012, the certificate number and expiration date;
 - g. If the individual is not certified pursuant to He-P 5012, the date application for certification was or will be made, and the date training in accordance with He-P 5013 was or will be obtained; and
 - h. Whether the person meets the requirements of either a competent person in 29 CFR 1926.1101, or an on-site supervisor in 29 CFR 1910.120, or both.
- (c) The application shall be dated and signed under the penalties of RSA 641:3 by the applicant and each responsible person who fulfills the licensing requirement specified in He-P 5011.08(b).
- (d) Each application for licensure shall be submitted to the department with a fee of \$250, payable to the treasurer of the state of New Hampshire.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5011.05 Review and Decision.

- (a) Applications shall be reviewed by the department in accordance with RSA 541-A:29.
- (b) The department shall deny an application for licensure if the applicant:
 - (1) Submits incomplete information in the application, and has not corrected the omission despite notification pursuant to RSA 541-A:29,I;

- (2) Submits material information in the application that is false or misleading;
- (3) Does not meet the general requirements for licensure specified in He-P 5011.08;
- (4) Is currently under a license or certificate suspension or revocation pursuant to this chapter;
- (5) Has failed to pay an administrative fine levied pursuant to RSA 141-E:16; or
- (6) Has a performance history, including violations by the applicant or its responsible persons of any state or federal environmental, health, or safety requirement that relates to the type of work for which licensure is sought, that causes the department to conclude that the applicant will not be able to comply with these rules.

(c) A license shall:

- (1) Be issued in writing for the type of work the applicant is qualified to perform;
- (2) Be dated and signed by the commissioner or the commissioner's designee;
- (3) Be valid for a period of 12 months from the date of issuance;
- (4) Include the name and address of the applicant;
- (5) Include such terms and conditions as necessary to protect public health, safety, and the environment;
- (6) Bear a unique identification number; and
- (7) Be non-transferable.
- (d) Issuance of a license shall not eliminate any obligation of the license holder, including its responsible persons, to comply with other federal, state, or local requirements, including any other obligation for obtaining licenses, permits, training, or other approvals for the work to be performed.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5011.06 License Suspension and Revocation.

- (a) Revocation or suspension of a license issued pursuant to this part shall proceed in accordance with RSA 541-A:30;
- (b) The department shall revoke a license if there is:
 - (1) Good cause, as provided by (d) below; and
 - (2) No opportunity or circumstance by which the license holder can correct or eliminate the underlying problem.

- (c) The department shall suspend a license if there is:
 - (1) Good cause, as provided by (d) below; and
 - (2) Given time to do so, the license holder can correct or eliminate the underlying problem.
- (d) The following shall constitute good cause to suspend or revoke a license:
 - (1) The license holder obtained the license based on false or misleading material information;
 - (2) The license holder has knowingly violated the safe work practices prescribed in state and federal asbestos regulations;
 - (3) The license holder has failed to comply with an order of abatement issued pursuant to RSA 141-E:14;
 - (4) The license holder has failed to pay an administrative fine levied pursuant to RSA 141-E:16; or
 - (5) The license holder has failed to comply with these rules or the terms and conditions of the license; or
 - (6) The license holder has a performance history, including violations by the applicant or its responsible persons of any state or federal environmental, health, or safety requirement that relates to the type of work for which licensure is sought, that causes the department to conclude that the applicant will not be able to comply with these rules.

Source. #7326, INTERIM, eff 7-28-00, EXPIRED: 1-24-01

New. #7467, eff 3-23-01

He-P 5011.07 License Renewal.

- (a) To renew an expiring license, the license holder shall file an application for license renewal that includes:
 - (1) All application information required in He-P 5011.04(b);
 - (2) The license number and issue date of the applicant's expiring or expired license; and
 - (3) A list of asbestos disposal site projects conducted by the license holder since the date the expiring license was issued, including the:
 - a. Site location;
 - b. Name of the property owner;
 - c. Project start date;
 - d. Project status;
 - e. Project contact person and telephone number; and

- f. Project site supervisor.
- (b) Applications to renew an expiring license shall be dated and signed under the penalties of RSA 641:3 by the applicant and each responsible person fulfilling the licensing requirement specified in He-P 5011.08(b).
- (c) Applications to renew an expiring license shall be submitted to the department with a fee of \$250, payable to the treasurer of the state of New Hampshire.
- (d) Applications to renew an expiring license shall be submitted to the department no less than 45 days and no more than 60 days prior to the license expiration date.
- (e) Applications to renew an expiring license shall be processed in accordance with He-P 5011.05.
- (f) An expiring license that is under suspension shall not be renewed before all terms and conditions of the suspension are fully satisfied.

Source. #7467, eff 3-23-01

He-P 5011.08 General Requirements for Licensure.

- (a) License holders shall be registered and in good standing to do business in New Hampshire, as required by the secretary of state.
- (b) License holders shall have at least one responsible person who is actively involved with decisions regarding the license and related matters, and is certified pursuant to He-P 5012.
- (c) License holders shall not undertake any work under the authority of the license unless:
 - (1) The work is actively supervised at all times by at least one individual who is certified as an experienced worker pursuant to He-P 5012 and meets the requirements of either a competent person in 29 CFR 1926.1101 or an on-site supervisor in 29 CFR 1910.120, or both;
 - (2) The work is performed by individuals who hold a valid certificate issued pursuant He-P 5012 and are competent to perform the work;
 - (3) At the work site, the number of workers who are certified as workers-in-training pursuant to He-P 5012 does not exceed the number of workers who are certified as experienced workers pursuant to He-P 5012;
 - (4) The license or a certified copy thereof is posted at a conspicuous location at the work site where site conditions do not require personal protective equipment to be worn by those present;
 - (5) The certificates, or copies thereof, of all workers present at the work site are available for inspection by the department, the department of environmental services, and the local health officer at a conspicuous location at the work site where site conditions do not require personal protective equipment to be worn by those present; and
 - (6) A current copy of these rules is available for reference by workers at a conspicuous location at the work site where site conditions do not require personal protective equipment to be worn by those present.

- (d) License holders shall maintain business and personnel records in conformance with federal requirements, including but not limited to:
- (1) 29 CFR 1926.1101(n);
- (2) 29 CFR 1910.1001(m); and
- (3) 29 CFR 1910.1020.

Source. #7467, eff 3-23-01

PART He-P 5012 CERTIFICATION, ASBESTOS DISPOSAL SITE WORKERS

He-P 5012.01 <u>Purpose</u>. The purpose of the rules in this part is to implement the provisions in RSA 141-E:11 that require individuals who disturb asbestos at asbestos disposal sites to be trained and certified.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5012.02 <u>Applicability</u>. Except as specified in He-P 5012.03, any individual who disturbs asbestos at asbestos disposal sites shall hold a valid certificate issued pursuant to this part.

<u>Source.</u> #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5012.03 Exemptions.

- (a) An individual shall not be required to hold a valid certificate issued pursuant to this part in order to undertake a small-scale, short duration disturbance of asbestos at an asbestos disposal site, subject to the following conditions:
 - (1) The individual shall not be under license or certificate suspension or revocation pursuant to these rules
 - (2) The quantity of material disturbed shall not exceed one cubic foot;

- (3) The area of disturbance shall not exceed 3 square feet;
- (4) The work shall be completed within 2 hours of being initiated;
- (5) The individual performing the work shall assure that the local health officer is notified before the work commences and that the local health officer, the department, and department of environmental services are provided access to the work site for inspection;
- (6) The work shall be done in a manner that precludes the release of asbestos fibers and in accordance with other federal, state, and local requirements, including those identified in He-P 5001.01(b); and
- (7) The work shall not be part of a larger project that is being segmented into small scale, short duration tasks.
- (b) An individual shall not be required to hold a valid certificate issued pursuant to this part in order to remove non-friable asbestos only from the ground surface to a container for disposal, subject to the following conditions:
 - (1) The activity shall not involve excavation below the ground surface;
 - (2) The activity shall not involve contact with friable asbestos or asbestos that exhibits friable characteristics; and
 - (3) The work shall be done in a manner that precludes the release of asbestos fibers and in accordance with other federal, state, and local requirements, including those identified in He-P 5001.01(b).

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5012.04 <u>Application for Certification</u>. The following provisions shall apply to individuals seeking certification for the first time, individuals seeking re-certification more than one year after their most recent certificate has expired, and individuals seeking re-certification after their most recent certificate has been revoked:

- (a) Individuals seeking certification to disturb asbestos at an asbestos disposal site shall submit an application in writing to the department, prepared on a form provided by the department.
- (b) The application shall include the following:
 - (1) Name, mailing address, telephone number, and date of birth of the applicant;
 - (2) Name, address, and telephone number of each entity or individual licensed, or to be licensed, pursuant to He-P 5011 with whom the applicant is currently employed or otherwise associated for the performance of work involving the disturbance of asbestos at asbestos

disposal sites;

- (3) A list of all state or federal enforcement actions, both past and pending, against the applicant with regard to environmental, health or safety activities, and the current status of each such enforcement action;
- (4) Identification of all certifications and licenses, both past and present, issued to the applicant pursuant to either He-P 5008, He-P 5011, or He-P 5012, and the current status of each;
- (5) Whether the applicant is seeking certification as an experienced worker or a worker-intraining, based on the criteria provided in He-P 5012.08(b);
- (6) One 2 inch by 2 inch, current, clear, non-mutilated, and unstapled color photograph of the applicant's face, with the name of the applicant legibly printed on the back side; and
- (7) Written documentation showing that the applicant meets the certification requirements specified in He-P 5012.08, including:
 - a. A record, signed by the training provider(s) under the penalties of RSA 641:3, showing that the applicant attended and completed basic training in accordance with He-P 5013;
 - b. A statement by the applicant attesting that he/she has read and comprehends all information as required by He-P 5012.08(a)(2);
 - c. A test score report issued by the department showing the date and results of an examination taken by the applicant in accordance with He-P 5013.03(c); and
 - d. A work experience record, signed under the penalties of RSA 641:3 by the work supervisor(s), documenting the number of hours the applicant has engaged successfully in the disturbance of asbestos at asbestos disposal sites pursuant the requirements in He-P 5012.08(b).
- (c) The application shall be dated and signed by the applicant under the penalties of RSA 641:3.
- (d) Each application for certification shall be submitted with a fee of \$50, payable to the treasurer, state of New Hampshire.

Source. #7467, eff 3-23-01

He-P 5012.05 Review and Decision.

- (a) Applications shall be reviewed by the department in accordance with RSA 541-A:29.
- (b) The department shall deny an application if the applicant:
 - (1) Submits incomplete information in the application and has not corrected the omission despite notification pursuant to RSA 541-A:29,I;
 - (2) Submits material information in the application that is false or misleading;

- (3) Does not meet the general requirements for certification specified in He-P 5012.08;
 - (4) Is currently under license or certificate suspension or revocation pursuant to this chapter; or
 - (5) Has a performance history, including violations of any state or federal environmental, health, or safety requirement that relates to the type of work for which licensure is sought, that causes the department to conclude that the applicant will not be able to comply with these rules.

(c) Certification shall:

- (1) Be issued in writing for the type of work the applicant is qualified to perform, including whether the certificate holder is an experienced worker or a worker-in-training, based on the experience requirements provided in He-P 5012.08(b).
- (2) Be dated and signed by the commissioner or the commissioner's designee;
 - (3) Be valid for a period of 12 months from the date of issuance;
 - (4) Include the name, address, date of birth, and photograph of the certificate holder;
 - (5) Include such terms and conditions necessary to protect public health, safety and the environment;
 - (6) Bear a unique identification number; and
 - (7) Be non-transferable.
- (d) Issuance of a certificate shall not eliminate any obligation of the certificate holder to comply with other federal, state, or local requirements for the performance of the work, including any obligation to obtain additional training and certificates, licenses, permits, or other approvals.

Source. #7467, eff 3-23-01

He-P 5012.06 Suspension and Revocation.

- (a) Revocation or suspension of a certificate issued pursuant to this part shall proceed in accordance with RSA 541-A:30.
- (b) The department shall revoke a certificate if there is:
 - (1) Good cause, as provided by (d) below; and
 - (2) No opportunity or circumstance by which the certificate holder can correct or eliminate the underlying problem.
- (c) The department shall suspend a certificate if there is:
 - (1) Good cause, as provided by (d) below; and
 - (2) Given time to do so, the certificate holder can correct or eliminate the underlying

problem.

- (d) The following shall constitute good cause to suspend or revoke a certificate:
 - (1) The certificate holder obtained the certificate based on false or misleading information;
 - (2) The certificate holder cheated on the examination;
 - (3) The certificate holder has knowingly violated the safe work practices prescribed in state and federal asbestos regulations;
 - (4) The certificate holder has failed to comply with an order of abatement issued pursuant to RSA 141-E:14;
 - (5) The certificate holder has failed to pay an administrative fine levied pursuant to RSA 141-E:16;
 - (6) The certificate holder has failed to comply with these rules or the terms and conditions of the certificate; or
 - (7) The certificate holder has a performance history, including violations of any state or federal environmental, health or safety requirement that relates to the type of work for which licensure is sought, that causes the department to conclude that the applicant will not be able to comply with these rules.

Source. #7467, eff 3-23-01

He-P 5012.07 Certificate Renewal.

- (a) To renew an expiring certificate or a certificate that has been expired for less than one year, the certificate holder shall file an application for certificate renewal that includes:
 - (1) All application information required in He-P 5012.04(b)(1) (6);
 - (2) The certificate number and issue date of the applicant's expiring or expired certificate;
 - (3) A list of asbestos disposal site projects that the certificate holder worked on since the date the expiring or expired certificate was issued:
 - a. The site location;
 - b. The name of the property owner;
 - c. The name, address, and telephone number of the license holder for whom the certificate holder performed the work;
 - d. The name, address, and telephone number of the project site supervisor;
 - e. The date the project commenced and the date the project was completed; and

- f. The nature of the work performed.
 - (4) A statement by the applicant attesting that he/she has satisfied the annual refresher training requirements specified in He-P 5013.05;
 - (5) A test score report issued by the department showing the date and results of an examination taken by the applicant in accordance with He-P 5013.03(c); and
 - (6) If seeking to have the certificate upgraded from a worker-in-training certificate to an experienced worker certificate, the information specified in He-P 5012.10(a)(2) (3).
- (b) Applications to renew an expiring certificate shall be dated and, under the penalties of RSA 641:3, signed by the applicant.
- (c) Applications to renew an expiring certificate shall be submitted to the department with a fee of \$50.
- (d) Applications to renew an expiring certificate shall be submitted to the department no less than 45 days and no more than 60 days prior to the expiration date of the certificate.
- (e) Applications to renew an expiring certificate shall be processed in accordance with He-P 5012.05.
- (f) An expiring certificate that is under suspension shall not be renewed before all terms and conditions of the suspension are fully satisfied.

Source. #7467, eff 3-23-01

He-P 5012.08 General Requirements for Certification.

- (a) No individual shall be granted a certificate pursuant to this part, unless the individual has:
 - (1) Completed training in accordance with He-P 5013;
 - (2) Read and comprehended all information provided in a document published by the department of environmental services in May, 2000, titled Guidance for Managing Asbestos Disposal Sites; and
 - (3) Scored 70 percent or better on an examination in accordance with He-P 5013.03(c).
- (b) An individual shall be certified as either an experienced worker or a worker-in-training, as follows:
 - (1) Experienced workers shall be those individuals who have successfully performed at least 40 hours of work involving disturbance of asbestos at asbestos disposal sites according to the following:
 - a. For work experience accrued on or after the date that is 60 days following the effective date of this rule, the individual shall have performed the work under the supervision of an individual who is certified as an experienced worker pursuant to these rules and meets the requirements of either a competent person in 29 CFR 1926.1101 or an on-site supervisor in 29 CFR 1910.120, or both.; and
 - b. For work experience accrued before the date that is 60 days following the effective date of this rule, the individual shall have performed the work either:

- 1. As a competent person in 29 CFR 1926.1101 or an on-site supervisor in 29 CFR 1910.120, or both; or
- 2. Under the supervision of a competent person in 29 CFR 1926.1101 or an on-site supervisor in 29 CFR 1910.120, or both; and
- (2) Workers-in-training shall be those individuals who have not yet met the experienced worker requirements specified in (1) above.

Source. #7467, eff 3-23-01

He-P 5012.09 <u>Limitations</u>. Individuals certified pursuant to this part shall be authorized to disturb asbestos at an asbestos disposal site only when the activities are authorized by an entity or individual licensed pursuant to He-P 5011, unless the work is license-exempt work pursuant to He-P 5011.03.

Source. #7467, eff 3-23-01

He-P 5012.10 Upgrading a Worker-in-Training Certificate.

- (a) The department shall upgrade a current worker-in-training certificate to an experienced worker certificate following receipt of a written request by the certificate holder that includes the following information:
 - (1) The certificate holder's name, mailing address, date of birth, telephone number, and certificate number;
 - (2) A written record, signed under the penalties of RSA 641:3 by the individual(s) who supervised the work, documenting that the certificate holder has successfully completed at least 40 hours of work involving the disturbance of asbestos at asbestos disposal sites, as required by He-P 5012.08(b); and
 - (3) A statement, also signed under the penalties of RSA 641:3 by the individual(s) who supervised the work, attesting that the certificate holder is competent in the performance of his/her certificate related duties.
 - (b) The certificate upgrade shall be issued in writing to the applicant.

Source. #7467, eff 3-23-01

PART He-P 5013 Training requirements for Certified Asbestos Disposal Site Workers

He-P 5013.01 Purpose.

- (a) The purpose of the rules in this part is to establish the scope of training required to obtain and renew a certificate pursuant to He-P 5012.
- (b) Training is intended to supplement, and not replace or wholly satisfy, federal training requirements for working with asbestos, including, as applicable:
 - (1) 29 CFR 1926.1101;
 - (2) 29 CFR 1910.120; and

(3) 40 CFR 763.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5013.02 <u>Applicability</u>. The rules in this part shall apply to all individuals seeking certification pursuant He-P 5012.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96; amd by #5982, eff 2-2-95

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5013.03 General Requirements.

- (a) The following individuals shall be trained pursuant to the basic training program requirements in He-P 5013.04, prior to applying for a certificate pursuant to He-P 5012:
 - (1) Individuals not previously certified pursuant to He-P 5012;
 - (2) Individuals holding a certificate issued pursuant to He-P 5012 that has been expired for over one year before the date an application for renewal is submitted pursuant to He-P 5012;
 - (3) Individuals holding a certificate that has been revoked pursuant to He-P 5012; and
 - (4) Individuals wishing to obtain certification who have failed the post-training examination, as provided in He-P 5013.06, 3 consecutive times.
- (b) The following individuals shall satisfy the annual refresher training requirements in He-P 5013.05, prior to applying for certificate renewal pursuant to He-P 5012:
- (1) Individuals holding an expiring certificate issued pursuant to He-P 5012; and
 - (2) Individuals holding a certificate issued pursuant to He-P 5012 that has been expired for one year or less before the date an application for renewal is submitted pursuant to He-P 5012.
- (c) After training pursuant to either (a) or (b) above is completed, and within 6 months prior to filing an application to obtain or renew certification, the trainee shall take and pass an examination as specified by He-P 5013.06.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96; amd by #5982, eff 2-2-95

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5013.04 Basic Training Program.

- (a) Basic training shall be obtained through a program, or combination of programs, that covers no less than the following topics through a combination of lecture, interactive presentation, and hands-on activity:
 - (1) Asbestos identification, specifically including the identification of asbestos at asbestos disposal sites located in New Hampshire;
 - (2) History, characteristics and location of asbestos disposal sites in New Hampshire;
 - (3) Human health effects due to asbestos exposure, including the relationship to smoking and contact information for smoking cessation;
 - (4) Relevant federal, state, and local regulations;
 - (5) Personal protective equipment;
 - (6) Medical monitoring; and
 - (7) State of the art work practices for disturbing asbestos at asbestos disposal sites, including:
- a. Site characterization;
- b. Site control and site security;
- c. Neighborhood protection;
- d. Air monitoring and asbestos fiber control;
- e. Cut and fill techniques;
- f. Bulk containment, transportation, and disposal of asbestos waste;
- g. Decontamination procedures for personnel and equipment;
- h. Site closure requirements, including and record drawings;
- i. Clearance determinations;
- j. Sampling techniques; and
 - k. Managing site emergencies; and

- (8) Best management practices for maintaining closed sites and protecting public health.
- (b) The basic training program shall be taught using a combination of lecture, interactive presentation, and hands-on activity.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5013.05 Annual Refresher Training.

- (a) Annual refresher training shall be self-administered by the certificate holder.
- (b) Annual refresher training shall include the following:
- (1) Review of written materials and other information obtained during basic training;
 - (2) Review of the document published by the department of environmental services in May, 2000, titled Guidance for Managing Asbestos Disposal Sites; and
 - (3) Review of current and relevant federal, state, and local regulations, including these rules.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

He-P 5013.06 Post-Training Examinations.

- (a) Examinations required pursuant to this part shall be administered by the department.
- (b) The department shall schedule examinations by request during regular business hours at a time convenient to both the applicant and the department.
- (c) Examinations shall be designed by the department to test the trainee's understanding of:
 - (1) The information covered by the basic training program;
 - (2) The document published by the department of environmental services in May, 2000, titled Guidance for Managing Asbestos Disposal Sites; and

- (3) Current and relevant federal, state and local regulations.
- (d) The department shall administer the examination orally to any individual who so requests an oral examination due to a reading difficulty.
- (e) A passing score on the examination shall be 70% or greater.
- (f) To obtain a passing score, an individual shall be allowed to retake the required examination up to 3 times before having to re-attend basic training.
- (g) The department shall report the examination score to the examinee in writing.

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

New. #7467, eff 3-23-01

PARTS He-P 5014-5019 - RESERVED

Source. #4269, eff 6-24-87; ss by #4951, eff 10-11-90, EXPIRED: 10-11-96; rsvd by #5982, eff 2-2-95

New. #6369, EMERGENCY, eff 11-12-96, EXPIRED: 3-12-97

APPENDIX

RULE NUMBER	STATUTE IMPLEMENTED
He-P 5001	RSA 141-E
He-P 5002.01(n), (o), (q), (v) and (aj)	RSA 141-E:2
He-P 5005.01	RSA 141-E:4, I(b) and (h)
He-P 5006.01	RSA 141-E:3, I(g) and RSA 141-E:4, I(c)
He-P 5008	RSA 141-E:10-11 and RSA 141-E:4, I(g)
He-P 5009	RSA 141-E:16 and RSA 141-E:4, I(m)
He-P 5010	RSA 141-E:4, I(1)

He-P 5011	RSA 141-E:10, RSA 141-E:12, I and RSA 141-E:4, I(o)-11
He-P 5012	RSA 141-E:11, RSA 141-E:12, I and RSA 141-E:4, I(o)
He-P 5013	RSA 141-E:11 and RSA 141-E:4, I(o)

APPENDIX D

ADS RECONNAISSANCE CHECKLIST

Date:		
ADS #:		

ASBESTOS DISPOSAL SITE ASSESSMENT SITE RECONNAISSANCE CHECKLIST

✓	Describe method of reconnaissance and limitations to access and observations
✓	Size of site
✓	General description of property:
	ResidentialCommercialIndustrialOpenAgriculturalUndevelopedPavedBuildingsUnpaved
✓	General topographic observations
√	Hydrologic observations (ponds, rivers, streams, drainage ditches etc.)
✓	Soil/geologic observations
✓	General vegetation
✓	Evidence of potential asbestos on ground surface

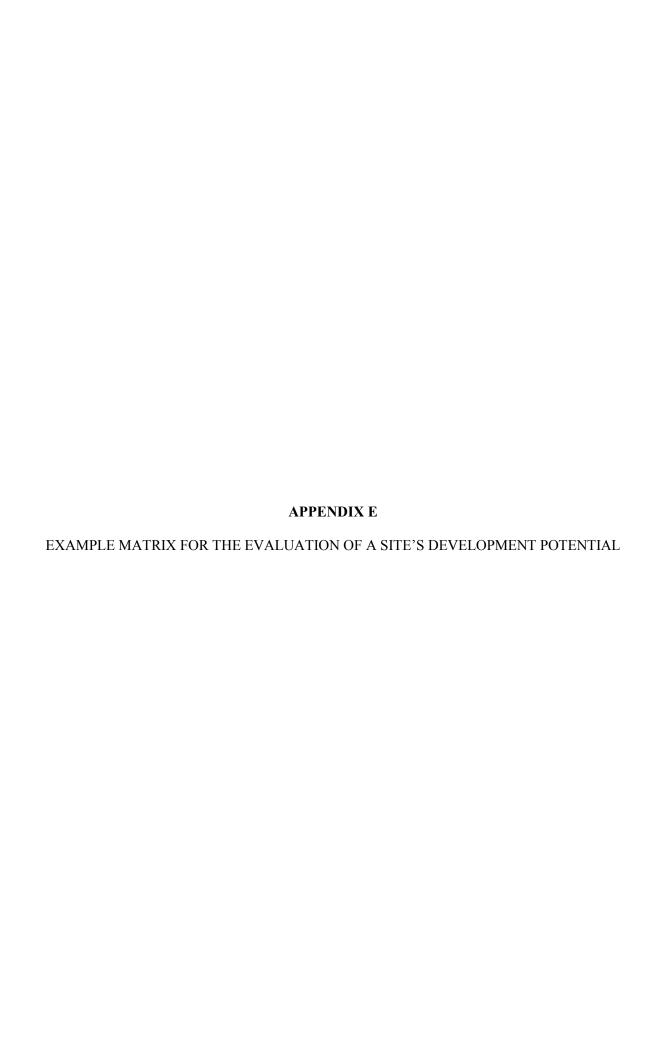
Note	e: Include sketch of property and locations of potential ACM if found
✓	Disturbed areas such as unnatural fill, hummock or borrow areas, evidence of subsurface excavations
✓	Other significant observations
√	Samples collected
✓	Access Restrictions for future investigations (excavator/backhoe etc.)
Re	commend Subsurface Investigation Technique for Property
	□ Excavation – backhoe
	Handprobes
	Other

 $C:\label{eq:condition} C:\label{eq:condition} My\ Documents\ \ is te \ assessment\ field\ form. doc$

Date:	
ADS #:	

PHOTO DOCUMENTATION

PHOTOGRAPH 1:	View Looking	_ of
PHOTOGRAPH 2:	View Looking	_ of
PHOTOGRAPH 3:	View Looking	_ of
PHOTOGRAPH 4:	View Looking	_ of
PHOTOGRAPH 5:	View Looking	_ of



ADS Site No.	Tax Map No. and Lot No.	Site Address	Zoning	Zoning Code	Site Access	Square Footage (Acres)	Land Topo	Adjacent Properties	Best Potential Land Uses	Dev. Potential
					CITY-OWNED R	ESIDENTIAL				
223 Recreational	34/30	Rear Temple Street Nashua, NH 03060	C urban residence	RC	Excellent	74,923 (1.7)	Flat	Senior Center and Residential	Expansion of Senior Center	High
328 Public Park	E-1407, 2191, 75/271	Mines Falls Park Nashua, NH 03060	C suburban residence	R9	Poor	Park	Elevated Berm to Canal	Surrounded by Mines Falls Park	Recreation	None Land is part of park.
222 Commercial	34/76	76 Temple Street Nashua, NH 03060	C urban residence	RC	Excellent	57,241 (1.3)	Flat	Senior Center and Residential	Expansion of Senior Center	High
221 Undeveloped Land	34/21	84 Temple Street Nashua, NH 03060	C urban residence	RC	Excellent	22,080 (1.9)	Flat	Senior Center and Residential	Expansion of Senior Center	High
244 River Bank	41/12 101 houses on Walden Pond Drive	10 Walden Pond Drive Nashua, NH 03060	A urban residence	RA	None Access blocked by homes	1,494,108 (34.3)	Steep Slope River bank	Residential	Undeveloped	None Steep sloped river bank
258 Undeveloped Land	62/42	Amherst Street Nashua, NH 03060	B urban residence	RB	Excellent	6,858 (0.15)	Flat and some slope areas	Residential	Multi-family Residential by combining with ADS # 263, 264 and 292	High
263 Undeveloped Land	62/84	Putnam Street Nashua, NH 03060	B urban residence	RB	See ADS # 258	3,400 (0.08)	See ADS # 258	See ADS # 258	See ADS # 258	See ADS # 258
264 Undeveloped Land	62/86	Prescott Street Nashua, NH 03060	B urban residence	RB	See ADS # 258	8,025 (0.18)	See ADS # 258	See ADS # 258	See ADS # 258	See ADS # 258
268 Undeveloped Land	70/12	Intervale Street Nashua, NH 03060	B urban residence	RB	Fair bridge needs repair	348,915 (8.0)	Flat some rolling	Residential	Recreation and possibily residential	Low to Moderate Low if bridge not repaired. Moderate based on rolling terrian and wetlands

ADS Site No. 284 Undeveloped Land 292 Undeveloped	Tax Map No. and Lot No. 109/36	Site Address Oakland Avenue Nashua, NH 03060 Putnam Street	Zoning A urban residence B urban	Zoning Code	Site Access Good See ADS # 258	Square Footage (Acres) 5,522 (0.12) 8,000	Land Topo Steep See ADS # 258	Adjacent Properties Residential See ADS # 258	Best Potential Land Uses Undeveloped Land in conservation setback from brook See ADS # 258	Dev. Potential None Steep slope and within setback from brook See ADS # 258
Land	02/00	Nashua, NH 03060	residence		OWNED COMME	(0.18) RCIAL/INDUST		0007120 # 200	330 / 120 // 200	0007.00 11 200
199 Transportation Roadway no asbestos has been observed at this site, but is believed to be there because of the site location	24/18	East Hollis Street Nashua, NH 03060	General Industrial	Gl	None Land under bridge	66,646 (1.5)	Flat	River Bank	Undeveloped	Low No access
200 Undeveloped Land	24/18	WBMR/parallel to River, East Hollis Street Nashua, NH 03060	General Industrial	GI	Poor	Undefined	Elevated River Bank	River Bank Very narrow	Undeveloped	None River bank
241 Undeveloped Land	40/34	WBMR/North of Bridge Street Nashua, NH 03060	Good access off bridge going 370,260 Flat solution of the Street General Industrial GI west: Fair access (8.5) sloped are		Flat some sloped areas	Recreational Skateboard Park Industrial Established businesses	Multi-Family Residential Recreational Boat Ramp / Recreation Area and Industrial	High		
242 Undeveloped Land	40/37	10 Sanders Street Nashua, NH 03060	General Industrial	GI	Excellent	34,808 (0.79)	Flat	Industrial Businesses same side of street and Soccer field across street	Industrial	High potential if used with soccer field land Low, if lot used by itself due to small size for industrial use
321 Commercial	E/60	125 Pine Hill Road Nashua, NH 03060	Airport Industrial	Al	Good	Undefined	Wetland	Wetland and airport	Undeveloped	None Essentially all wetlands

ADS Site No.	Tax Map No. and Lot No.	Site Address	Zoning	Zoning Code	Site Access	Square Footage (Acres)	Land Topo	Adjacent Properties	Best Potential Land Uses	Dev. Potential
325 Undeveloped Land	E/138	Pine Hill Road Nashua, NH 03060	Airport Industrial	Al	Excellent	40,000 (0.91)	Flat	Residential and airport	Retail / Service such as car rental business	None Land in the "Clear Zone" of airport
					CITY-OWNED	MIXED USE				
219 Public Access	33/104	2 Court Street Nashua, NH 03060	Central business Mixed use overlay district C urban residence	CB MU 70% 30%RC	Good	89,298 (2.0)	Rolling	Library and parking	Library Use	None – Used by Library
225 Recreational	33/50	33-50 Park Street Nashua, NH 03060	Central business Mixed use overlay district C urban residence	20% CB MU 80% RC	Fair	45,738 (1.05)	Flat	Library and parking	Trail Use	None Part of Heritage Trail
183 Undeveloped Land	16/36	One Fifield Street Nashua, NH 03060	A urban residence B urban residence	RA - 25% RB - 75%	Good	331,927 (7.6)	Very Steep	Residential	Undeveloped	None Very steep terrain
229 Commercial	34/2	40-46 Park Street Nashua, NH 03060	Central business Mixed use overlay district C urban residence	155 CB-MU 85%RC	Good	19,591 (0.4)	Flat	Library and parking	Library Use	None Used by Library

ADS Site No.	Tax Map No. and Lot No.	Site Owner	Site Address	Zoning	Zoning Code	Site Access	Square Footage (Acres)	Land Topo	Adjacent Properties	Best Potential Land Uses	Development Potential
261	62/170	Peter Nash 22 Bennett Street	Bennett Street Site Nashua, NH 03060	B urban residence	RB	Fair	63,228 (1.45)	Flat some slope areas	Residential	Multi-Family Residential or Recreation	Moderate to High depending on contamination findings
261A	62/61	Security Homes c/o Mr. Rene Lallave Bennett Street	Bennett Street Site Nashua, NH 03060	B urban residence	RB	Fair	37,000 (0.85)	Flat some slope areas	Residential	Multi-Family Residential or Recreation	Moderate to High depending on contamination findings
261B	62/167	Security Homes c/o Mr. Rene Lallave 58 Prescott Street	Bennett Street Site Nashua, NH 03060	B urban residence	RB	Fair	94,839 (2.17)	Flat some slope areas	Residential	Multi-Family Residential or Recreation	Moderate to High depending on contamination findings
269	70/13	Warren W. Kean Trustee, The Chester Realty Trust	Intervale Street, Nashua, NH 03060	C urban residence	RC	Fair - Bridge needs repair	989,683 (22.7)	Rolling some flat areas	Residential	Recreation and possiblity residential	Low to Moderate Low if bridge not repaired. Moderate based on rolling terrian and wetlands

Notes:

- 1. Total acreage of the Bennett Street site is 4.47 acres for the total of all three lots (ADS # 261, 261A, and 261B).
- 2. Total acreage of the Amherst/Putnum/Prescott site is 0.59 acres for the total of all four sites (ADS # 258, 263, 264, and 292).

APPENDIX F

EXAMPLE QUESTIONNAIRE FOR FIRST PUBLIC MEETING

November 27, 2000 Brownfields Redevelopment Corridor Grant Public Meeting

QUESTIONNAIRE

Introduction

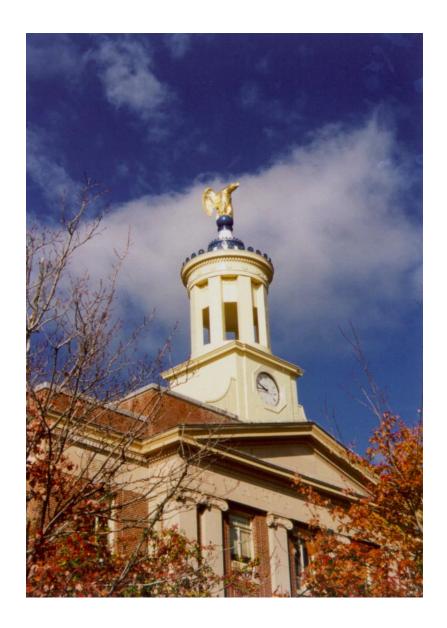
The City of Nashua encourages residents to participate in the Brownfields Redevelopment Corridor grant process. This questionnaire is designed to enable you to help the City and its environmental consultants better understand potentially contaminated properties. Also, if you are interested in taking a more active role in this process, please fill out your name and contact information in the space provided.

Please complete and leave this form on the back table before leaving. You may also mail (by November 30th) the questionnaire to: Mike Asselin, GZA, 380 Harvey Road, Manchester NH 03103. Thank you!
Questions 1. Do you have any information about the Bennett Street/Lafayette Oil or Whitney Screw properties that could help the environmental engineers better understand possible contamination issues? If so, please explain. Use reverse side if necessary. Whitney screw usage: losewood Builders, Stario Awing, Northern lust Part Progressive Stario Awing, Northern lust Part Progressive profession treas and the pair, Kingo Florist & current Florist show profession treas are you aware of properties not identified during tonight's meeting that are of an environmental concern to you? If so, please explain. Use reverse side if necessary. Side wurned by Frank Lakakos - Inco Court Property
3. What land use do you prefer for the Bennett Street site? Recreational Residential Commercial Industrial
What land use do you prefer for the Whitney Screw site? Recreational Residential Commercial Industrial Indu
 4. The City is interested in forming a group of interested persons to play an active role in the Brownfields grant process. This committee will meet several times over the next year to: discuss resident concerns about this Brownfields work; receive updates from the environmental assessments; be responsible for updating others throughout the community about assessment developments; discuss possible reuse options for the properties once cleaned up.
If you provided information about these sites, or if you are interested in participating in the City's Brownfields working group, please provide the following information:
Name: Address:
Phone: (E-mail:

Please contact me about joining the committee (check here):

APPENDIX G

EXAMPLE BROCHURE FOR PUBLIC MEETING



City of Nashua Broad Street Redevelopment Corridor Brownfields Grant

Bernard A. Streeter, Mayor

What are Brownfields?

Brownfields are properties that have actual or perceived contamination. Traditionally, such properties are avoided because of unknown liabilities: *Is it contaminated? If so, how seriously? If I buy the property, can I be sued for environmental damage? Is this property worth reusing?*

What is a Brownfields Grant?

The U.S. Environmental Protection Agency (EPA) has created a grant program called the *Brownfields Assessment Demonstration Pilot* to fund studies of Brownfields. These studies enable cities and towns to better understand the extent of contamination as well as to explore redevelopment opportunities.

Nashua applied for and received a grant from the EPA. In executing this grant, the City has hired GZA GeoEnvironmental, an environmental consulting firm with extensive Brownfields experience, to conduct studies of several properties along the proposed Broad Street Parkway corridor.

The Broad Street Parkway

The City of Nashua has planned the Broad Street Parkway, a \$37.1 million roadway project that will connect Route 3/ Everett Turnpike to downtown Nashua.

The Broad Street Parkway, in conjunction with this Brownfields grant and the revitalization of several industrial properties, will enable the City to enjoy significant economic and social benefits associated with the reuse of these buildings.

Combined, these benefits should provide the incentives to clean up other contaminated properties in the vicinity of the Parkway and return them to productive use.

The Broad Street Redevelopment Corridor Brownfields Grant

Project Objectives

The objectives of this Brownfields grant are to assess the nature and extent of contamination of several sites throughout the City and to determine whether these properties can be cost-effectively cleaned up and returned to productive use.

In addition, the City will develop an inventory of Brownfield sites, categorize and prioritize them. This information is critical for future planning and development.

Community Involvement

Community involvement is necessary for this project to succeed. The City takes concerns and opinions of its residents very seriously. To make sure residents can be involved, a public participation program has been designed to provide numerous opportunities for interested persons to participate.

Public Meeting

The first public meeting to discuss the Broad Street Corridor Brownfields project is scheduled for **November 27 at 7 P.M.** in the auditorium of City Hall, third floor.

Please attend this meeting to discuss important issues about:

- the Brownfields program
- present and future uses of the sites
- opportunities for future involvement

What sites are to be assessed?

The Broad Street Parkway project will address many of the contaminated properties in the corridor. The City will also examine additional properties of concern in Nashua. Two priority sites, both in significant tax arrears, are:

Bennett Street Property, a/k/a Lafayette Oil 22 Bennett Street

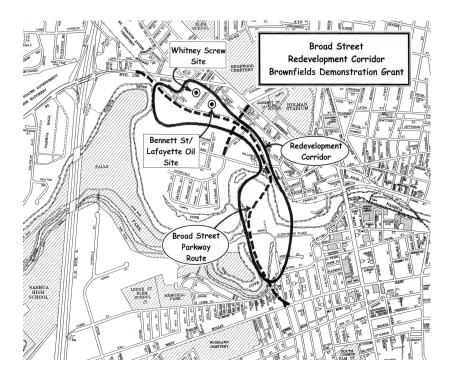
This site is currently abandoned and petroleum tanks have been removed. Limited subsurface explorations will be performed to provide a complete picture of what is expected to be a manageable environmental cleanup effort.

Whitney Screw Site

14A Broad Street

This site is partially occupied by a flower shop and a small screw manufacturing operation. Additional subsurface explorations will be performed to update and expand the City's understanding of environmental conditions at the site.

Public input is needed to help determine the range of acceptable future use options for both of these sites.



Where can I get more information?

Nashua Public Library

Reference Department 2 Court Street

www.nashua.lib.nh.us Telephone: (603) 594 - 3412

City Hall

Internet www.gonashua.com.

Mayor Bernard A. Streeter

City of Nashua (603) 594 - 3341 (603) 589 - 3260 (after 11/17/00) MayorOffice@ci.nashua.nh.us

Mr. Roger Hawk

Director, Community Development (603) 594 – 3379 (603) 589 – 3095 (after 11/17/00) CommuniDevelopment@ci.nashau.nh.us

Other

New Hampshire Department of Environmental Services www.des.state.nh.us

United States Environmental Protection Agency www.epa.gov

You are invited to a Public Meeting

Monday, November 27, 2000 Nashua City Hall Third Floor Auditorium 7:00 P.M.

Topics:

- The Brownfields Program
- Nashua's Brownfields Grant
- Properties to be addressed
- Future uses of the properties